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OF THE ROYAL NAVAL
BIRD WATCHING SOCIETY

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ROYAL NAVAL BIRD WATCHING SOCIETY

(Affiliated to the British Trust for Ornithology)

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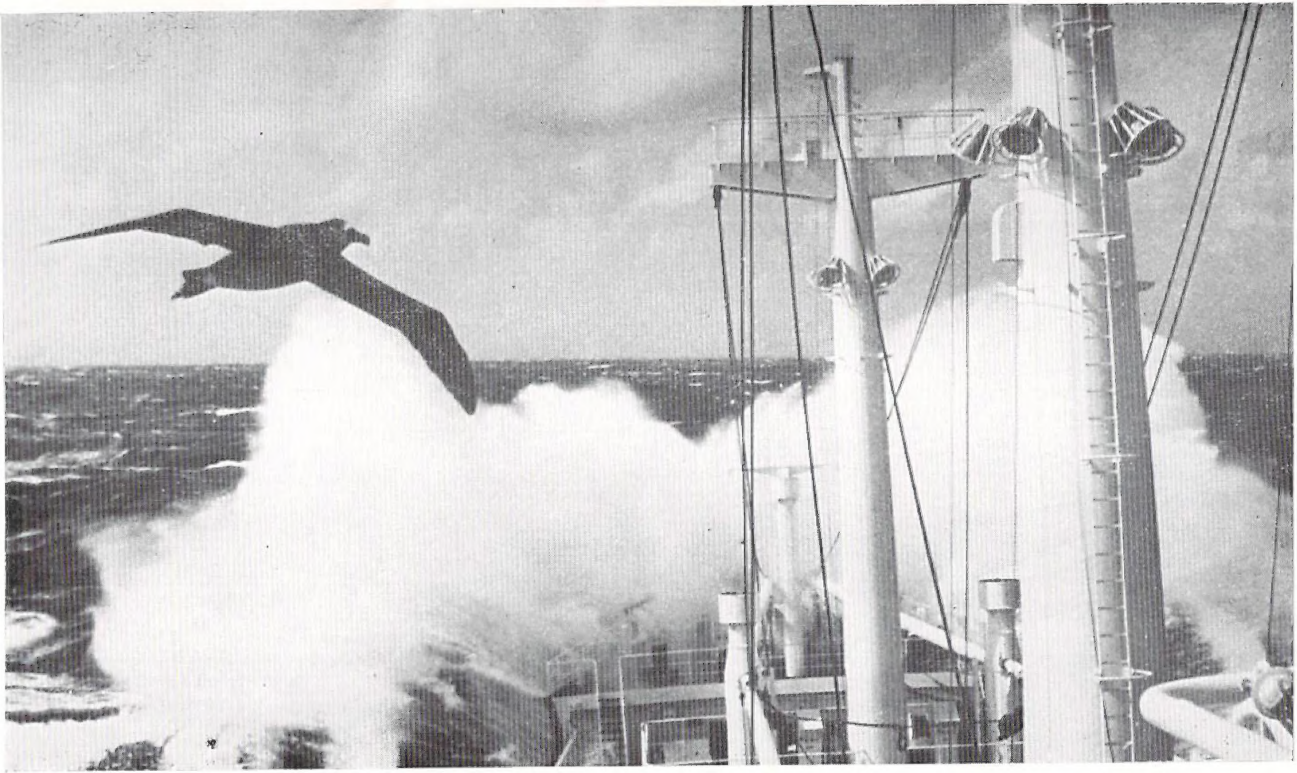

BLACK-FOOTED ALBATROSS — NORTH PACIFIC

Photo: R.N.B.W.S. — Second Officer M. E. Jones, M.N.

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FOREWORD

Service duty leads me this year to write to you from overseas, in the terms of sea reports from approximate position 39°N.77°W., but I am glad to have been kept so well in touch with the Society's progress.

Since my last foreword in Sea Swallow, 1964, and for reasons explained at the Annual General Meeting of that year, we have been compelled to raise the annual subscription to 15s. I believe that this is a modest subscription for the interest members gain in supporting the objectives of R.N.B.W.S.

Recently there has been a marked upsurge of interest in the study of sea birds, the International Indian Ocean Expedition, the Pacific Project sponsored by the Smithsonian Institution, the B.O.U. Conference on sea birds, the Navado operation in which the bird watching aspect has been sponsored by R.N.B.W.S. in conjunction with the Hydrographers of Great Britain and the Netherlands, and the newly formed Seabird Group formed in Great Britain through the enterprise of Dr. W. R. P. Bourne, our advisor on sea bird reports. In all these to a greater or lesser extent R.N.B.W.S. has played some part.

More recently R.N.B.W.S. has begun to draw in the British Ocean Weather Ship Service into its reporting network. I should like to thank all these organisations in the interest they are showing in the work that members of R.N.B.W.S. are taking.

I send my thanks to all our old members for their support and a message of welcome to our new members of 1965.

Nigel Henderson.

Head,
British Defence Staffs,
Washington D.C.,
B.F.P.O.2.

EDITORIAL

STATE OF THE SOCIETY

As your Chairman I wish to thank all members for their continuing support to the Society since the decision at the Annual General Meeting in 1964 to raise the annual subscription to fifteen shillings to new members on joining and to existing members as from 1st January, 1966.

At the beginning of 1965 our total membership stood at 277. Since then 24 new members have joined, and allowing for a few members who have gone astray our present total membership stands at 290. At the same time 29 Ornithologists from 12 countries have become Corresponding Members.

CHANGES IN THE EXECUTIVE COMMITTEE

Captain P. P. O. Harrison, M.N., who has now retired from the service has been replaced as Merchant Navy Representative on the Editorial and Advisory Members Panel by Captain E. F. Aikman, M.N. Members will remember the many sea bird reports and articles contributed by Captain Harrison, including his publication "Sea Birds of the South Pacific—A handbook for passengers and seafarers." Captain Aikman's long experience in the observation of birds at sea will be of particular value.

Captain R. Casement, O.B.E., R.N., has retired from the Vice-Chairmanship after serving in this post since 1954, but will be remaining in close touch with the society.

Captain T. E. Barlow, D.S.C., R.N., who was our Hon. Secretary and Treasurer in 1950, has been elected Vice-Chairman.

REPORTS FROM SEA

Reports from our members at sea received since 1st January, 1965, increase annually and this year have been augmented by the special reports arising from operation "Navado" and the British Ocean Weather Ship reports. Excluding the latter the number of individual reports received up to-date are as follows:—

Standard Sea Report Sheets (sea birds): 53 passages
Census Sheets (sea birds): 26
Sea Report Sheets (land birds): 20 passages
Reports on birds examined in the hand:

Sea birds: 28
Land birds: 20

BIRD PHOTOGRAPHY AT SEA

Perhaps the most outstanding aspect of the activities of our members at sea recently has been the marked interest in acquiring the art of bird photography. It is only possible to reproduce in *Sea Swallow* a very few of what I believe must rapidly be becoming a unique collection of photographs and slides now held by our Society. I am indeed grateful for the generosity of those who have put their photographs at our disposal. Some of the most outstanding contributions received this year are quoted below:

Photographs

Captain J. H. Adams, R.N.—Sooty Tern. Chief Officer J. Agnew, M.N.—Albatrosses, Magnificent Frigate-Birds, Brown Boobies, Red-billed

Gull and colour photographs of Buller's Albatrosses. Captain D. Stam (Netherlands M.N.)—Aden Gulls, Little Auk, Grey Phalarope. Captain G. S. Ritchie, R.N. (Photos by Naval Airman K. F. Rushby)—Series of photographs of Leach's Storm-Petrels, Wilson's Storm-Petrels, Laughing Gulls, Blue-faced Boobies, Pomarine Skuas and immature Gannets. Second Officer M. E. Jones, M.N.—Black-footed Albatrosses, Black-vented Shearwater, Pomarine Skuas, Japanese Gull, Glaucous Gull. Mr. E. D. Macdonald (Ocean Weather Ship)—Immature Kittiwakes, Fulmer Petrels, Little Auk. Lieut. R. Neilson, R.N.—Blue-footed Booby, Great Frigate-Bird.

COLOUR SLIDES

Surgeon Commander D. G. Dalgiesh, R.N.—Brown Boobies and Noddies on St. Pauls Rocks, Inca-Tern, Quanay Cormorants and Chilean Pelicans. Mr. A. L. Durand—Tristan Great Shearwater, White-faced Storm-Petrel. Third Officer Brakenbridge, M.N.—White-faced Storm-Petrel, Common Noddy, Glaucous-winged Gull, Indian River Terns, Black-footed Albatross, Herring Gull.

A number of excellent photographs of land birds on board have also been received.

PROJECTS OF INTEREST

OPERATION "NAVADO". A summary of the observations of sea birds covering the first phase is included in this volume.

From July to the end of September, 1966, H.M.S. Vidal will be undertaking five further oceanographic surveys in northern waters from the British Isles towards Norway, Iceland, Greenland and Labrador each cruise lasting three or four weeks. Captain G. S. Ritchie, D.S.C., R.N., who has directed the ornithological observations in earlier phases, will have relinquished command of H.M.S. Vidal to become Hydrographer of the Navy in flag rank on 1st January, 1966. If a proper and continuous record of observations of sea and land birds is to be maintained the provision of a volunteer ornithologist to embark for one or more of these cruises and to coordinate birdwatching is an essential requirement and a place is being reserved accordingly. The actual accommodation will be somewhat basic in a scientific dormitory for six.

R.N.B.W.S. will be glad to hear from any prospective volunteers who need not necessarily be members of R.N.B.W.S. Volunteers should write for further details to Captain G. S. Tuck, R.N., Prattendens, Bury, Pulborough, Sussex.

REPORTS FROM BRITISH OCEAN WEATHER SHIPS

It is hoped to build up a more permanent organisation for receiving observations of sea and land birds from our Ocean Weather Ships. We are greatly indebted to the excellent records received from our first two observers, a summary of which is recorded in this volume.

THE PACIFIC PROJECT (Smithsonian Institution, Div: of Birds, Washington, D.C., 20560)

To learn more about sea bird migration some 300,000 sea birds in the mid-Pacific islands have been marked with numbered United States Fish and Wildlife Service aluminium legbands. Of these over 60,000 have been marked with 4 inch coloured plastic streamers.

R.N.B.W.S. has been invited to cooperate, and this adds a further incentive to birdwatching in the Pacific Ocean. Members are asked to take the following action as occasion arises:

(a) If a dead sea bird is recovered—Remove and return leg band to address shown.

(b) If a live sea bird is recovered—Note leg band number, leave band in place and release bird. Forward band number to address shown.

(c) If a leg streamer is sighted—Record the name and Description of the bird seen and the colour of the streamer—Forward details to the Smithsonian Institution, Division of Birds, Washington, D.C., 20560.

In all cases include— Date, Latitude and Longitude or location of sighting, your name and address and quote R.N.B.W.S.

MIGRATION OF SOOTY TERNS—R.N.B.W.S. COOPERATION

The banding of Sooty Terns at breeding stations at Dry Tortugas, Florida, began in 1959, and at Morant Cays, Jamaica, in 1964. In 1965, 52,000 adults and 87,000 juveniles were banded at Dry Tortugas and 3,200 adults and 800 juveniles at Morant Cays.

The most important fact revealed to-date is that some juvenile birds in their first Autumn cross the Atlantic to the West African Coast, probably in the Doldrums in early October. Already fourteen juveniles in their first year have been recovered along the shores of the Gulf of Guinea, Monrovia, Nigeria and the Cameroons. The rate of recovery is very low and so, since 1965, an increasing number of Sooty Terns have been banded with 4-inch leg streamers of brightly coloured plastic visible at sea up to about 100 yards. The colours are dark pink, yellow-green and yellow.

R.N.B.W.S. members are asked to cooperate by sending reports of any such streamers seen, giving date and position, colour of streamer and whether bird was in adult or juvenile plumage, direct to: W. B. Robertson Jnr., Park Biologist, U.S. National Park Service, P.O. Box 279, Homestead, Florida 33030, U.S.A. The observers name, quoting R.N.B.W.S. should be added.

The most important areas to be watched are the equatorial mid Atlantic (October), the coastal areas of West Africa (October/November), between 5°S. and 12°N., and in the Caribbean area (September/October).

THE ROYAL AIR FORCE ORNITHOLOGICAL SOCIETY

The inaugural meeting of the newly formed R.A.F.O.S. took place on 23rd October, 1965, at which Dr. W. R. P. Bourne and myself were invited to say a few words. We were very glad of this opportunity of meeting their Chairman, Squadron Leader A. A. J. Hudson and Hon Secretary, Flight Sergeant F. J. Walker, who have done so much to establish this new society on a firm basis. R.N.B.W.S. looks forward to establishing close ties with the interests of R.A.F.O.S.

THE ORNITHOLOGICAL SOCIETY OF VIETNAM

A letter which I was delighted to receive from Mr. Philip Wildash, Pro-Consul of the British Embassy, Saigon, tells me of the formation of the Ornithological Society of Vietnam with the object of stimulating the study and protection of birds. The society has already produced an initial check list of the birds of Vietnam.

The Society would be very glad to get in touch with anyone who has studied birds in Vietnam. The present address is Zoology Dept., Faculty of Science, 227 Cong Hoa, P.O. Box A2, Saigon, Vietnam.

THE SEABIRD GROUP

The Seabird Group is now formally constituted, sponsored by the B.O.U., B.T.O., and R.S.P.B., whose nominated representatives form part of its executive committee. Dr. W. R. P. Bourne is Hon. Secretary, from whom prospectus can be obtained, and correspondence should be addressed to him c/o The British Ornithologists Union, Bird Room, British Museum (Natural History), Cromwell Road, London, S.W.7.

Briefly the Group's principal object it to bring together ornithologists interested in the seabirds of the waters surrounding the British Isles, to coordinate and circulate news of work being carried out and to develop cooperative research in all aspects of the study of seabird biology.

BOARSTALL, BUCKS, WILDFOWL RESERVE

Mr. J. G. Worgen who has sent us many interesting reports while serving with the Post Office Service in Cable Laying Ships has now taken up a permanent post with the Wildfowlers Association of Great Britain and Ireland as Warden/Decoyman of the wildfowl reserve at Boarstall. His address is Decoy Cottage, Boarstall, Nr. Brill, Aylesbury, Bucks. He will be very pleased to welcome R.N.B.W.S. members to the reserve, but requests notice in advance.

G. S. TUCK,
Editor.

WILFRED BACKHOUSE ALEXANDER 1885–1965

W. B. Alexander was the oldest of three brothers who have made an outstanding contribution to world ornithology, both at home and abroad. Trained as a biologist at King's College, Cambridge, he took little interest in birds until he went to Australia in 1912, where he was Curator to the West Australian Museum, and during the First World War participated in the first major successful project in biological pest control, the introduction of a South American insect to control introduced prickly pears in Australia. He learnt to know seabirds during voyages made on this project, and with the encouragement of the rising authority on the subject, Dr. R. C. Murphy, completed the first "field guide" to them, his "Birds of the Ocean", in a year on his way home in the mid 1920s. It has remained the only comprehensive work on all seabirds ever since, and has been acknowledged as the original inspiration of Mr. Peterson's later revolutionary illustrated landbird field-guides as well.

On his return he worked at Oxford from 1930, where he built the Edward Grey Institute of Field Ornithology and the great library that bears his name into national institutions, and also inspired the original development of the whole British bird observatory system.

This brief summary can hardly convey his character adequately. He was a stubborn individualist with a straightforward boyish manner even when I knew him, and made a lasting impression especially on the younger people with whom he came in contact, including myself during an unforgettable fortnight on Fair Isle in 1949. Those of us who had the privilege of knowing him must feel a special sort of sadness with his passing, at the loss of a great and original man such as we are unlikely to meet again.

W.R.P.B.

OBSERVATIONS OF SEA BIRDS

By W. R. P. Bourne

INTRODUCTION

Since the character of these notes changes and develops over the years, it may be useful to reformulate their aim. It is to provide a cumulative annual summary of work on seabirds, with particular attention to original work at sea by members of the R.N.B.W.S. and their collaborators, but also noting other work of interest published elsewhere in passing. The original notes supplied by observers are published directly in "Sea Swallow" where they are of special interest, and are otherwise summarised for the calendar year in which they were received, since voyages often run on from one year to another, and there is often also much delay before they are sent in. We are noting useful literature published since these summaries started in 1959 as soon as we come across it. We are always glad to hear of interesting past observations or publications that have been overlooked.

Since from time to time we receive a variety of comments on what we publish, it may also be useful to restate the criteria on which it is selected. A first aim is to convey a fair impression of the work of members and the material available for analysis, best shown by the preliminary list of observations received. Many of them are routine information which does not add to knowledge taken alone, though many observations taken together will do so in time, and these are filed in the Bird Room at the British Museum (Natural History), where together with anything provoking doubt they are available for examination on request to the Director. The next aim is to select from this material and the published information new observations of interest, summarising any details provided where they seem likely to be useful to document records or to add to knowledge. Finally, we try to comment on points causing difficulty or those suggesting new lines of investigation, a category including a good many of the stranger observations sometimes provoking criticism.

INTERNATIONAL COLLABORATION IN THE ANALYSIS OF SEABIRD OBSERVATIONS

The Royal Naval Bird Watching Society has been accumulating a steadily growing mass of routine observations of seabirds for more than a decade in the first comprehensive world-wide data-collecting scheme of its type. In recent years it has only been possible to record the more interesting observations in *Sea Swallow*, where we also feel our space should be devoted to a survey of other literature as well, in an attempt to give more coherence to marine ornithology as a subject. The time has now perhaps come to set out some ideas for the future analysis of the observations that we, and a growing number of other people throughout the world, have been collecting in such numbers.

Our first principle so far has been to develop effective recording methods, to train accurate recorders, and to build up a supply of information about seabirds which will permit the proper study of their natural history and distribution. Limited amounts of this information have long made it possible to plot the distribution of most seabirds in a general way. We are now moving into a new position, where the amount of informa-

tion received presents an impossible problem for ordinary manual analysis and detailed publication. At this stage it seems time to consider following other branches of science by taking to mechanical methods of analysis; and since this is extremely complicated and expensive it is going to require the enlistment of additional resources to apply the new techniques.

The path ahead is indicated by the recent Botanical Society of the British Isles survey of the distribution of British plants, and the plans being developed by the British Trust for Ornithology among others for the analysis of all types of landbird data. The basic information obtained is recorded on punched cards or tape and sorted mechanically, in the extreme development by a computer, which with the B.S.B.I. scheme produced maps ready for publication. We have already much of the data required for the initiation of such a scheme, and there is more distributed around the world; our problem is now to secure international agreement over the pooling of this data and the best means of initiating a joint approach to its use, since there is nothing more ridiculous than two computors competing to do the same job, each with exactly half the information required to make it a success.

In order to avoid future confusion it would be necessary to formulate clearly from the start what resources are available, what part different contributors should play in the work, and in particular how the results should be shared. A large part of the design would obviously be determined by the resources available in the form of raw observations, finance, trained personnel, mechanical aids for analysis, and facilities for printing and publication of the end product. To secure general cooperation such a scheme would presumably have to be conducted by a representative committee of all the interests involved, which could secure general support for a common programme.

The R.N.B.W.S. has already shown the way to develop a data-collecting scheme for all oceans, and within the last year the British National Ornithological Societies have combined to sponsor the development of a joint Seabird Group to organise seabird studies in our home waters and provide a national base for wider cooperation. It is to be hoped that at the International Congress it may prove possible to agree on the formation of a representative international organisation to promote the proper development of this international subject in the way that it deserves.

The XIV International Ornithological Congress held in Britain in July, 1966, has provided an invaluable meeting place to discuss such liaison, and we are able to report the first moves towards co-operation as we go to press. Preliminary discussions were held during the course of the preceding cruise around the north of Scotland on M.S. "Devonia," when 900 ornithologists were able to examine our best seabird colonies at close quarters, and substantial agreement was obtained on desirable means and objects before the company adjourned to Oxford. At a meeting of over a hundred representatives of different countries there on 24th July it was then agreed to address a petition to the International Ornithological Committee (the Committee of 100) which organises the Congresses for the formation of a Standing Committee to organise international liaison for work on seabirds, which would meet at all future Congresses. This resolution was accepted by the International Ornithological Committee, who have appointed the following International Seabird Committee:—

Professor V. C. Wynne-Edwards (Great Britain), Chairman; Dr. R. A. Falla (New Zealand); Dr. F. Goethe (Germany); Mons. C. Jouanin (France); Dr. N. h. Kuroda (Japan); Professor K. H. Voous (Holland); Dr. G. E. Watson (U.S.A.); Dr. W. R. P. Bourne (Great Britain), Secretary.

The Committee is currently exploring the most efficient means of organisation and sources of support; early activities are likely to include an attempt to secure more international agreement over names for seabirds and recording techniques, and the production of a simple newsletter, while later we hope to set up regional data-collecting centres, one or more international data-processing centres with computer facilities, and perhaps to found an international scientific journal. Those who wish to be informed of progress should notify me (via The Seabird Group, c/o British Ornithologists' Union, British Museum (Natural History), Cromwell Road, London, S.W. 7).

REPORTS RECEIVED IN 1964

The following people hereafter referred to by their initials, provided sea reports and censuses during 1964:—

Mr. E. P. Agate, H.M.S. Protector. U.K.-Falkland Island Dependencies and return via Tristan, October, 1963-April, 1964. 24 pages reports.

Chief Officer J. H. Agnew, M.S. Wharanui. Brisbane to Aden via the Torres Strait, June-July, 1964. 6 pages reports.

Captain C. C. Atkinson, M.V. Clan Mackintosh. Four voyages from Britain to West and South Africa and return, January, 1963-February, 1964. 6 pages reports, and one census sheet from Walvis Bay.

Mr. J. O. Brinckley, M.S. Mabel Warwick. Five return voyages U.K.-West Africa, March-July, 1964. 14 pages reports.

Mr. S. E. Chapman, M.V. Cienfuegos. Three return voyages U.K.-west coast South America, November, 1963-August, 1964. 10 pages reports.

Mr. E. J. Doyle, M.V.Ebro. U.K.-California via Panama and return, April-July, 1964. 7 pages reports.

Captain P. P. O. Harrison and the officers of S.S. Kent. Numerous voyages between Britain and Middle East oil ports December, 1963-October, 1964, with one voyage Kuwait-Whangari (New Zealand-Singapore-Kuwait May-July, and then a return trip from Kuwait to Mombasa July-August. 103 pages reports, 51 census sheets.

Commander J. N. Humphreys, R.N., H.M.S. Albion. Notes from Gulf of Aden and South China Sea, September-November, 1963. 2 pages reports.

Captain W. N. H. Jervis, M.V. Orlando. Persian Gulf-Fremantle-Suez, January-February, 1964. 1 census sheet.

(2nd Officer M. E. Jones, M.V. London Advocate. U.K.-Panama-Yokohama-Malaya-Jayan, August-October, 1964. 5 pages reports. Summarised in Sea Swallow last year).

Captain W. A. Kennedy, M.V. Loch Loyal. Rotterdam-California, February-March, August, 1964. 3 pages reports.

Chief Officer K. D. A. Lamb, S.S. Carone. U.K.-Barbados-New York-Trinidad-Rio de Janeiro-Cape Town-Durban-Madagascar-Seychelles-Bombay-Yokohama-Hawaii-California-Panama, January-May, 1964. S.S. Saxonia, S.S. Invernia, M.V. Media, three voyages U.K.-New York and return, July-October, 1964. 30 pages reports

Lt. J. W. Leech and Mr. R. W. Thomas, H.M.S. Owen. Western Indian Ocean, March-April, 1964. 10 pages reports.

(Lt. R. G. Menzies, R.N., H.M.S. Narwhal. Cruise under the Arctic ice, February-March, 1964. 5 pages reports, summarised in Sea Swallow last year).

Captain J. B. Mitchell, M.V. Lagenbank. Panama-Brisbane, April-May, 1964. 2 pages reports.

Lt.-P. G. Odling-Smee, R.N., H.M.S. Dampier. Cruise in the Indian Ocean, June-August, 1964. 11 pages reports.

Captain G. S. Ritchie, R.N., H.M.S. Vidal. Operation NAVADO, tropical North Atlantic, October, 1963-April, 1964. 14 pages reports.

3rd Officer J. D. Simon, S.S. Nyanza. London-Malta-Aden-Mombasa, December, 1963-January, 1964. 8 pages reports.

Captain D. Stam, M.V. Forest Town. Monrovia-Ymuiden, April, 1963. Port Said-Persian Gulf, May-June, 1964. 3 census sheets.

Captain R. Walgate, M.V. Beaverbrook. London-Canada and return. April-May, 1964. S.S. Empress of England. London-Canada and return, September-October, 1964. 6 pages reports.

Captain J. G. Wells and C.P.O. Sanders, H.M.S. Kent. Norwegian fjords, February, 1964. 2 pages reports.

With the ten reports of birds examined in the hand progress during the five years in which we have been preparing reports is therefore as follows:—

Year	*Observers*	*Voyages*	*Reports*	*Censuses*	*Birds Examined*	*Total Sheets*
1960 ...	21	50	514	—	—	514
1961 ...	21	70	419	—	7	426
1962 ...	22	80	268	42	9	319
1963 ...	24	113	274	75	23	372
1964 ...	21	97	276	56	10	342

This is a small fall in activity from the record the previous year, possibly due to chance since a large proportion of our results come from a few keen observers who send in their results at irregular intervals. The reports for the year include much good work, so much so in fact that it would virtually amount to a repetition of the list to comment on

merits individually. There are a few points which perhaps deserve comment; thus, we would be grateful if members would stick to our forms and fill them in properly; we know that it is easy to design better ones, but when one has to sort many of them, it is easier to do this with forms that are familiar than with an infinite variety of improvements. When people cannot even stick to their own improved forms, but just write across them, this becomes even more confusing. Other things which are particularly tiresome are the omission of key information for records, such as the observer, the date or especially the locality, the use of strange names (we don't mind the omission of either the vernacular or scientific name; but please use ONE name that is recognisable); the use of "as in Alexander" in descriptions when we want to know what you actually saw yourself, or the inclusion of "too many first class rarities."

NOTES ON SPECIES

PENGUINS: FAMILY *SPHENISCIDAE*

Our main notes come from E.P.A. on "Protector." They met the first birds at 48°S. 52°W. on November, 1963, and by 5 January, 1964, were seeing King, Bearded and Gentoo Penguins *Aptenodytes patagonica*, *Pygoscelis artarctica*, and *Pygoscelis papua* in the Bismark Straits. By 25 January they were back near the Falklands at 47°S. 58°W. and reporting Magellan Penguins *Spheniscus magellanicus* with another King Penguin; in mid March they noted quite large flocks of Bearded Penguins around the South Sandwich Islands. On one occasion a Leopard Seal was seen to catch nineteen; on nine occasions the seal ripped the skin off and flung the body up in the air, dropping the skin to catch the body as it fell.

Publications include studies of the temperature control and the ecology of Emperor Penguins *Aptenodytes forsteri* in a series of papers by J. Prevost and others from French Antarctica (Oiseau 34 supp.: 2-90); the combined egg and chick loss was no more than 19-34 per cent.; of the navigation of Adelie Penguins *Pygoscelis adeliae* which shows that birds displaced inland automatically walk NNE towards the sea by J. T. Emlen and R. L. Penney (Ibis 106: 417); of the behaviour of different species ashore, and especially their mode of progression by O. S. Pettingill jr. (Living Bird 3: 45-64); and of the treatment of oiled White-flippered Penquins *Eudyptula albosignata* by B. N. Norris in New Zealand; good results were obtained with one wash in detergent (Notornis 12: 185186). G. M. Budd and M. C. Downes report that King Penguins are breeding again on Heard Island (Emu 64: 302-316).

ALBATROSSES: FAMILY *DIOMEDEIDAE*

Wandering Albatross *Diomedea exulans*. The most remarkable record is of an immature which followed "Protector" for four hours at 37°40'N. 9° 45'W. on 18 October, 1963, reported by E. P. A.
While there are a number of doubtful old records from both Europe and North America, the only recent one of this species north of the equator is of an immature male shot off Palermo, Sicily, on 4 October, 1957 (C. Orlando, Riv. Ital. Orn. 28: 101-113), so this would be only the second reliable record for the Northern Hemisphere. It was described

REPORTS OF BIRDS EXAMINED IN THE HAND

SPECIES	OBSERVER	*DATE*	*PLACE*	SEA TEMP.
Broad-billed Prion *Pachyptila vittata*	E. P. Agate	22.4.64	(Near Tristan)	?
White-bellied Storm-petrel *Fregetta* sp.	E. P. Agate	20.4.64	(Near Tristan)	?
Least Storm-petrel *Halocyptena microsoma*	W. A. Kennedy	9.3.64	22°20′N. 110°00′W.	20°C.
Galapagos Storm-petrel *Oceanodroma tethys*	W. A. Kennedy	4.8.64	17°10′N. 101°30′W.	29°C
Leach's Storm-petrel *Oceanodroma leucorhoa*	J. O. Brinkley	20.10.63	ca.32°N. 30°W.	27°C.
Leach's Storm-petrel *Oceanodroma leucorhoa*	A. B. Floyd	10.1.64	19°N. 42°10′W.	?
Leach's Storm-petrel *Oceanodroma leucorhoa*	W. A. Kennedy	10.3.64	21°31′N. 108°10′W.	21°C.
White-tailed Tropic-bird *Phaethon lepturus*	J. H. Agnew	26.3.64	22°50′S. 166°45′W.	24°C
Bridled Tern *Sterna anaethetus*	M. B. Casement	9.5.63	22°30′N. 37°30′E.	?
Bridled Tern *Sterna anaethetus*	J. H. Agnew	17.6.64	8°32′S. 128°30′E.	28°C.

as larger than Gannets and Black-backed Gulls and brown all over with white cheeks and underwings, a pale cream bill, and light brown legs; there seems little room for error. Further south E.P.A. began to meet them again at 23°S. 40½°W. on 13 November, and he and others saw many further south; he saw more at 44°S. 48°W. on 24 November, and comments how some appeared to dip the terminal six inches of the wing in the water when braking to do a sharp turn. He saw many adults at 56½°S. 55½°W. on 2 January, and more around the South Sandwich Islands in March. S.E.C. commented on the presence of a number, mainly immatures, in the Patagonian channels in December, 1963, possibly an important feeding area like the coast of New South Wales. In the third report of the N.S.W. Albatross Study Group J. D. Gibson records that they already had 38 movements of ringed birds between there and South Georgia (Emu 63: 215-223).

Laysan Albatross *Diomedea immutabilis*. K.D.A.L. reports them off Mexico from 33°N. 166°E. on 9 April, 1961, to 23½°N. 162°W. on 12 April with a water temperature rising from 19-25°C. R. T. Holmes has recently reported that they may occur regularly far off the California coast in late winter and early spring, though they do not come inshore like the Black-footed Albatross (Condor 66: 302-303).

Black-footed Albatross *Diomedea nigripes*. E.J.D. and K.A.D.L. report them off California in April and May; the latter saw them south to 29°N. 176°W. on 11 April, 1964. W.A.K. saw numbers while drifting for three days at 22°N. 176°W. from 8 March, 1964. T. Nakamura has recently also surveyed the distribution off Japan (Misc. Rep. Yamashina Inst. Orn. Zool. 3: 239-246), and C. F. Yocum reports a ringed bird surviving 18 years (Condor 67: 187-188).

Black-browed, Grey-headed, Yellow-nosed, Bullers and Shy Albatrosses *Diomedea melanophris, D. chrysostoma, D. chlororhynchos, D. bulleri, D. cauta*. There are the usual records of Black-brows south of 30°S. off South America, South Africa and Australia, and E.P.A. saw this species and the Grey-Headed off the South Sandwich Islands among other places in the far south. Three birds which he reported as Yellow-Nosed at 27°S. 9°W. off South Africa on 23 April, 1964, had marks on the lower mandible and sound more like Shy Albatrosses; C.C.A saw up to six in this region between 34½°S. 24°E. and 31½°S. 16°E between 6-11 February, 1964. P.P.O.H. reports Yellow-nosed from 32½°S 113°E. to 34°S. 172°E. off South Australia between 7-15 June, though Grey-heads might also be expected here. In eastern Australia P. Strong reports the first beached Buller's Albatross for Australia near Sydney on 2 May, 1963, and N. F. Learmonth a beached Yellow-nose near Portland, Victoria (Emu 64: 101-104, 322-323).

Sooty and Light-mantled Sooty Albatrosses *Phoebetria fusca* and *P. palpebrata*. E.P.A. reports two dozen Sooties circling in a group over porpoises at 25°S. 46½°W. on 15 November, 1963, most of which were young with pale necks, which were nearly white in some cases; and two at 27°S. 9°W. on 23 April, 1964. He also reports them in the far south with Light-mantled Sooties in the Bismarck Straits in January and around the South Sandwich Islands in April. There still seems to be confusion between the juveniles of these two species (not to mention with Giant Petrels, despite their different shape and pale bills) at times: young Sooties may apparently be pale on the back, while young Light-mantled Sooties, are darker than adults there. N. F. Learmonth reports

that they may be hard to tell apart even in the hand in a survey of beached specimens in Australia (Emu 60: 104-107).

TRUE PETRELS : FAMILY *PROCELLARIIDAE*

Giant Petrel *Macronectes giganteus*. C.C.A. saw them north to 18°S. 9½°E. off South Africa, and P.P.O.H. saw numbers off South Australia. E.P.A. comments on the noticeable change in colour as one travels south; in the north they are of course mostly dark immature birds, while the white phase is commoner in the south, and he comments others are often half white too. It would be useful to have counts of dark and white birds from different areas. C. M. McIlwaine reports how birds assemble to feed on offal at certain seasons in Wellington Harbour, going to the whale fishery at other times (Emu 64: 33-38).

Pintado Petrel or Cape Pigeon *Daption capensis*. E.P.A. first met them going south in the Atlantic at 28°S. 46°W. on 19 November, 1963, and S.E.C. found them in exactly the same latitude at 72°W. in the Pacific next day. There are numerous records further south.

Northern Fulmar *Fulmarus glacialis*. Among many records in the Atlantic, J.G.W. reports numbers in the north Norwegian fjords in February, 1964, including twenty dark birds at 70½°N. 21°E., and K.D.A.L. reports many at 51°N. 33°W. on 5 August, 1964, and very many at 54°N. 22°W. next day. In the Pacific W.A.K. saw numbers of dark birds while drifting for three days off Cape San Lucas, California at 22°N. 110°W. from 8 March, 1964. An abstract of a talk by E. I. S. Rees on distribution on the Newfoundland Banks and a discussion of the diurnal rhythm at Jan Mayen in autumn by R. Moss will be found in Ibis 107: 428-429 and 533-535; G. Doran describes some behaviour at the nest site in Irish Nat. J. 14: 172-173. Censuses in Northern Ireland and in the British Isles generally are documented by A. E. F. Rogers and J. Fisher in Bird Study 12: 34-35 and 13: 5-76; the systematics and distribution of the species in the North Atlantic is discussed by F. Salomonsen (Auk 82: 327-355) who considers that the name *F. glacialis* Linnaeus should be applied to the small-billed northern populations, and *F. g. audubuni* to the large-billed southern ones; the occurrence of northern birds in Swedish waters in winter is demonstrated by S. Matthiasson (var Fagelvarld 22: 271-289).

Southern Fulmar or Silver-grey Petrel *Fulmarus glacialoides*. S.E.C. first met them off Tucopilla, Peru, when moving south on 18 November, 1963, while E.P.A. did not meet them in the Atlantic until he reached 56°S. 31½°W. in March, 1964, with more around the South Sandwich Islands later in the month.

Antarctic Petrel *Thalassoica antarctica* and Snow Petrel *Pagodroma nivea*. On "Protector" E.P.A. met the first at 56½°S. 55½°W. on 2 January, 1964, and the second at 59°S. 53½°W. next day, with more of both in the Bismarck Strait that month and round the South Sandwich Islands in March.

Prions *Pachyptila* sp. and the Blue Petrel *Halobaena coerulea*. E.P.A. met the first Prions with bad weather at about 30°S. on 22 November, 1963, and others at 49°S. 53½°W. on 3 January, 1964, with more around the Bismarck Strait in that month. He met them again at 52°S. 53½°W. on 2 March; at 56°S. 31½°W. on 4 March a

vast host of mixed Prions started passing at 1450 hrs. and continued at least til dusk; there must have been at least 75,000 in all, including not only Dove but Fairy and Broad-billed Prions *P. desolata, P. turtur* and *P. vittata;* the broad bills could be seen clearly. The weather was calm, and the wind not more than seven knots; it is not clear what northern species were doing so far south unless perhaps they were immature non-breeders. He also had a Broad-billed Prion come on board near Tristan on 22 April. The overall length was 311 mm., the wing-span 645 mm., and the stomach contained minute green and yellow shrimp-like animals and grease. It had two sorts of parasites determined by Dr. Theresa Clay at the British Museum (Natural History) as *Mallophaga, Naubates prion* (Enderlein 1909) of the family *Philopteridae,* and ticks *Ixodes univacatus* (Neumann 1908) of the family *Ixodidae.* W. L. N. Tickell has recently also reported Slender-billed Prions *P. belcheri* and Blue Petrels from South Georgia (Ibis 102:61-614): they seem likely to be breeding there.

Great-winged Petrel *Pterodroma macroptera.* P.P.O.H. reported them from 32½°S. 113°E. on 7 June, 1964, to 34°S. 172°E. on 15 June off South Australia and New Zealand.

Atlantic or Schlegel's Petrel *Pterodroma incerta.* E.P.A. reported them from 26°S. 46°W. on 19 November, 1963, to 44°S. 48°W. on 24 November, and again near 47°S. 58°W. on 24 January, 1964.

Magenta Petrel *Pterodroma magentae.* The identity of this bird with the missing Chatham Island Taiko, possibly exterminated about a generation ago, is discussed in Notornis 11: 139-144.

Soft-plumaged Petrel *Pterodrama mollis.* P.P.O.H. reports numbers in the eastern Indian Ocean, including 14 at 17½°S. 99½°E. on 4 June, 1964, three at 22½°S. 104E. on 5 June, and 12 at 32½°S. 113°E. on 7 June. We have had other reports of them here in the southern winter, and curiously few from the equivalent part of the Atlantic then, where we hear of Atlantic Petrels instead.

Mottled or Peale's Petrel *Pterodroma inexpectata.* In the course of an account of the birds of the Pribilov Islands K. W. Kenyon and R. E. Phillips report 28 birds at 55½°N. 175½°W. (Auk 82: 624-635). It seems clear that there is an important concentrated wintering area in this region.

Trinidade Petrel *Pterodroma arminjoniana.* G.S.R. reports a possible bird at 10°N. 54°W. on 9 November, 1963. This species has been collected in the North Atlantic area two or three times in the past, and it remains debatable whether it may or may not have a northward migration.

Capped Petrel *Pterodroma hasitata.* S.E.C. reports a shearwater with a similar size and flight to the Manx Shearwater, a dark cap, upperwing and back, and the wing linings, underparts, and upper side of the tail white at 18½°N. 67½°W., off the east end of Hispaniola, on 23 April, 1964. There are now a growing number of reports of sightings of Capped Petrels in this region, and this must be one.

Barau's Petrel *Pterodroma baraui.* Some mysterious birds reported by P.P.O.H. in the east tropical Indian Ocean may be this new species, whose discovery by C. Jouanin we recorded last year. A bird seen at

3°S. 59½°E. on 28 July, 1964, was flapping and gliding low over the water and was slaty grey above with the body white and a stubby tail, though the underwing was thought to be dark. Three birds seen at 3°S. 54°E. next day were the size of or slightly smaller than a Wedge-tailed Shearwater with a soaring, swooping flight and were dark above and white below with a distinctive white, broadly dark-bordered underwing, shown in a sketch. The closely allied White-necked Petrel *P. externa* appears to move north in winter in the Pacific, and it seems very likely this form does so as well in the Indian Ocean.

Hawaiin Petrel *Pterodroma phaeopygia*. K.D.A.L. reports several birds which might be this species from 23½°N. 162°W. on 12 April, 1964.

"Cookilaria" (Cook's, Stejneger's and Gould's) Petrels and the Bonin and Black-winged Petrels *Pterodroma cookii, P. longirostris, P. leucoptera, P. hypoleuca and P. (h.?) nigripennis*. J.G.M. supplies a series of records of members of this group seen across the tropical Pacific, including several identified as "Cook's" at 4½°S. 139°W. on 3 May, 1964, three at 6°S. 145°W. next day, three at 9½°S. 162°W. on 7 May, and one identified as "Stejneger's" at 24°S. 166½°E. on 14 May. In a recent note on New Zealand records of this group R. A. Falla expresses the view that Stejneger's Petrel may eventually be considered an ally of Gould's (Notornis 9: 275-277); possibly all J.B.M.'s birds were that form. K. Mitsuishi and others have recently reported two Bonin Petrels blown inland in Japan by typhoons on 30 August and 26 September, 1964 (Misc. Rep. Yamashina's Inst. Orn. Zool. 4: 121-123); N.h. Kuroda has also published osteological notes on this species (Annot. Zool. Jap. 32: 147-151), and K. A. Hindwood and A. S. Reid report four vagrant Black-winged Petrels from Lord Howe Island, one from near Sydney, and two sitting in a burrow on Hen Island, Queensland, on 2 January, 1962 (Emu 64: 99-100, 104).

Bulwer's Petrel *Bulweria bulwerii*. This must rate as one of the world's most overlooked seabirds; we receive many reports of small dark petrels which might be it, but few confident reports. Possible reports include a series by G.S.R., with two "dark petrels" at 10°N. 28°W. on 2 November, 1963, two at 10°N. 50°W. on 8 November, two "dark storm-petrels" at 13°N. 33°W. on 28 November, one at 13°N. 21°W. on 2 December, two at 16°N. 18°W. on 8 December, and one at 19°N. 36½°W. on 11 January, 1964. K.D.A.L. also saw three at 2½°N. 42°W. on 6 February, 1964, J.O.B. two at 33°N. 13½°W. on 28 May, 1964, G.S.R. three at 37°N. 17°W. on 5 June, 1964, S.E.C. one at 42°N. 19°W. on 9 June, 1964, and two at 39½°N. 24½°W. next day, and M.E.J. six at 34°N. 21°W. on 4 August, 1964. This agrees with the established pattern of a movement south to the tropics in the winter and north to breed in the summer. In the Pacific K.D.A.L. reported several possible birds at 23½°N. 162°W. on 12 April, 1964, and J.B.M. one at 19½°S. 178°W. on 12 May, 1964

White-chinned Petrel *Procellaria aequinoctialis*. Off western South America S.E.C. first met them going south at 15½°S. 75½°W. on 16 November, 1963, with three in Valparaiso Bay on 22 November, and more around Punta Arenas in Patagonia. In the Atlantic E.P.A. noticed two with white cheeks, presumably the Tristan race *conspicillata*, at about 30°S. 50°W. on 23 November, 1963, and more at 52°S. 43°W. on 2 March, 1964. J. D. Gibson and A. Sefton have recently recorded a

second Australian specimen (Emu 64: 70-72); reports of birds far up the Amazon by Novaes (Condor 61: 299) seem candidates for the position of most unlikely suggestion of recent years; perhaps this is the untraced giant "Brasilian Petrel" of ancient authors?

Cory's or Mediterranean Shearwater *Calonectric diomedea=Puffinus kuhlii*. As usual, we have numerous records from the summer range in the North Atlantic and Mediterranean, but few from the winter range off west and south Africa. G.S.R. saw some birds either on southward migration or wintering in the tropics while sailing along the 13°N. parallel in the autumn of 1963, including four at 43°W. on 25 November, five at 41°W. next day, two at 38°W. the day after, and singles at 24°, 21° and 18°W. in the first three days of December. This rather suggests that the birds may go far west in the trades on their southward migration. They clearly come up the African coast when returning; J.O.B. reports twenty at 7½°N. 13½°W. on 26 March, 1964, and ten at 10½°N. 17°W. next day, all going north, and D.S. reports 200 at 9½°N. 16°W. on 10 April, 1963, and 300 at 29°N. 13½°W. on 15 April. J.O.B. also saw fifty at 9½°N. 16°W. on 20 April, 1964, and again at 12°N. 17½°W. on 18 May, with twenty at 12°N. 17°W. on 23 May. Further north S.E.C. reported large shearwaters, presumably this species, at 37½°N. 29°W. on 27 February, 1964, 35°N. 33½°W. next day, 24°N. 51°W. on 3 March and 23°N. 56½°W. next day. K.D.A.L. saw the westernmost at 40½°N. 71½°W. on 29 August, 1964.

White-faced Shearwater *Calonectric leucomelas*. K.D.A.L. reports several at 25°N. 126°E. on 31 March, 1964, with a water temperature of 24°C.

Wedge-tailed Shearwater *Puffinus pacificus*. The majority of many records of "dark shearwaters" scattered over a wide area in the central Pacific and Indian Ocean presumably refer to this species. In the Pacific J.B.M. had this species or the Christmas Shearwater *P. nativitatis* at 4°N. 96½°W. on 25 April, 1964, 1½°N. 108½°W. on 27 April, ½°S. 120°W. on 29 April, 11°S. 167½°W. on 8 May, 16°S. 178° W. on 10 May, and 19½°S. 177½°E. on 12 May, with several at 24°S. 166½°E on 14 May. In the Indian Ocean they occurred in the general area between the mouth of the Malacca Strait, Western Australia, and the Seychelles; P.G.O.S. noticed many in the centre of this area at 5½°N. 83½°W. on 1 July, 1964, and a very large flock at 2½°N. 77½°E. two days later, if these were not migrating Palefooted Shearwaters *P. carneipes*, and also many off North-west Sumatra in late August. Further west O. Appert has recently reported them breeding on an island near Morombe on the west coast of Madagascar, with eggs in November (Oiseau 39:135); J. A. R. Miles reports that on Hen Island in the Capricorn Group, Australia, the chicks were fledging in late May, and that in this species (unlike the Manx Shearwater) the adults do not desert them but continue feeding them so that they gain weight till they fledge (Emu 63:420).

Great Shearwater *Puffinus gravis*. In the south E.P.A. saw about twenty at 44°S. 48°W. on 24 November, 1963, and G.S.R. what may be late migrants off West Africa, with six at 13°N. 18°W. on 3 December, 1963 and one at 16°N. 18°W. on 8 December. We have many summer records for the north-west quadrant of the North Atlantic; during a series of return voyages between Britain and New York K.D.A.L. saw numbers around 40½°N. 68°W. on 26 July and

1 August, 47°N. 52°W. on 7 September, and large rafts at 51°N. 34°W. on 9 September, also several hundred at 52°N. 13°W approaching the Fastnet off SW Ireland on 11 September. P.P.O.H. also saw about a hundred in the Bay of Biscay at 44°N. 9°W. on 7 September, 1964. K.D.A.L. only found single birds going out in early October, and they had all gone when he returned in mid-October.

W. G. Metcalf plots the northward migration off Brazil in mid-May, 1965, in Ibis 108:138-140. We have also published notes covering other sectors of this route in the past, including records in the South Atlantic in April, and on the sector between Brazil and Newfoundland in May and early June (Sea Swallow 14:14, 15:16, 16:17-18, with a note by R. S. Hawkins on pp. 64-65), and it seems clear the northward migration occurs over a very short period along a narrow path from the Tristan area past Brazil to the Grand Banks. There is much less information on the return passage in September and the notes suggest that this may be because it is much more scattered, some birds, perhaps the breeders, moving straight back from Newfoundland in the West Atlantic, most from Greenland down the centre, while some, perhaps non-breeders, come back down the east side. It will be interesting to see at what extent our records reflect the unusual influx along the west coast of Europe in the autumn of 1965 (Brit. Birds 59:88), and we would welcome records for this period. R. Duthie records one off Shetland on 13 April, 1965, in Scottish birds 3:406, with the information that it is the first he has met in 25 years at sea there.

Pale-footed Shearwater *Puffinus Carneipes*. We have the usual records from the Arabian Sea. There are also now a growing number of ringing recoveries from Lord Howe Island to the other winter quarters off Japan in the North Pacafic (W. B. Hitchcock, C.S.I.R.O. Div. Wildl. Res. Tech. Paper 4, and J. L. McKean and K. A. Hindwood, Emu 64:78-98).

Sooty Shearwater *Puffinus griseus*. On the west coast of South America S.E.C. met large numbers off Callao, Peru, on 11 November, 1963, and on the east coast K.D.A.L. met one at 19°S. 37°W. on 9 February, 1964. He met few on North Atlantic crossings, but there were several at 40½°N. 68½°W. on 26 July. E.P.A. encountered two on return passage at 1½°N. 33°W. on 4 November, 1963, commenting on the pale underwing. It has been known for a considerable period that this species visits British waters in the autumn, but the ultimate course of those reaching East Scotland was obscure. Gibbs et al. and Devillers now report numbers seen moving west on the south side of the Straits of Dover in September, 1963 and 1964, so it appears they must leave the North Sea through the English Channel (Brit. Birds 58:56-58, Alauda 33:236-244). F. N. Robinson reports that where this species breeds in colonies of the Slender-billed Shearwater off Tasmania and New South Wales it may be located by its very different voice (Emu 63:304-306).

Slender-billed Shearwater *Puffinus tenuirostris*. K. Kawaguchi and R. Marumo report a wreck in Japan in late May, 1964 (Misc. Rep. Yamashina's Inst. Orn. Zool. 4:106). John Warham has also published a popular account of the Bass Strait colonies in Animal Kingdom 67/66-74, and R. H. Green calculates from the pumice stone found in their stomachs that these birds travel at least 500 miles to feed (Emu 65:226).

Manx, Levantine, Fluttering and Hutton's Shearwaters *Puffinus(p.) Puffinus P. (p.) yelkouan, P. (p.) gavia and P. (p.) huttoni.* There are a number of records for the eastern North Atlantic and Mediterranean; J.O.B. noticed a hundred going west at 51¾°N. 4½°W. off North Devon on the morning of 24 June, 1964, perhaps part of a feeding movement from the Pembroke colonies; M.E.J. commented on the well-known large concentration of birds feeding in the Bosphorus on 14 and 30 July, 1964; G.S.R. reported two at 10°N. 21°W. off West Africa on 31 October, 1963, perhaps migrants bound for South America; and P.P.O.H. noted a concentration of at least 10,000 at 36°S. 174½°E. off Whangarai, New Zealand between 19-21 June, 1964.

The British population is now the subject of a flood of papers. Sir Landsborough Thomson has analysed British long-distance ringing recoveries; when he did so (there are already more) they included 33 in South America, one in Australia and two in Newfoundland, 22 in the first year, the Newfoundland birds in their first and second summers,, the South American birds mainly in the autumn, but the Australian one long dead in its second autumn (Oiseau 35:130-140). M. P. Harris and C. M. Perrins have developed investigations on Skokholm; Harris reports that the birds tend to breed in the part of the colony where they were hatched, that they first return in their second year late in the summer, and progressively earlier to display thereafter. One bred in its third year, more do in their fourth, and most in their fifth, and there is a change in behaviour as they cease displaying and move underground then. The adult survival was at least 93 per cent. in the first year, and 96 per cent. in the next. Perrins finds that the young birds hatched early survive better. They report a number of types of variation such as small size, albinism and in the colour of the soft parts, and also the continued occurrence of epidemic puffinosis in their colony; and several correspondents have also discussed the last points, and P. Wormell reports Golden Eagles preying on them in the Hebrides (Ibis 107:427, 428, 108:17-33, 132-135, Brit. Birds 58:149, 349-350, 426-434, 521-522, 59: 82-85, 250-253, Bird Study 13: 84-95.

Otherwise, in the British Isles D. G. Andrew reports a colony in the Outer Hebrides (Scot. Birds 3:435-436), and G. Harrow reports the discovery of the breeding place of Hutton's Shearwater at 4,800ft. in the Seaward Kaikora Mountains of South Island, New Zealand; R. A. Falla also discusses the significance of this discovery, without coming to a definite conclusion whether it should be regarded as a distinct species (Notornis 12: 59-70).

Little, Dusky, or Audubon's Shearwaters *Puffinus assimilis* and *P.therminieri*. P.G.O.S. remarks that when one of these came aboard at 6°S. 56°E. in the Indian Ocean on 10 August, 1964, they spent some time examining it and were still unable to decide whether it was a Dusky or Audubon's. The author of the "Birds of the Palearctic Fauna" treats them as the same species. P.G.O.S. reports similar birds at 1°N. 45°E. on 4 July, 3½°S. 56½°E. on 19 August, and a flock of fifty at 5°N. 89°E. on 30 June, followed by many at 6°N. 83½°E. on 1 July; the last two records seem most unusual and it seems likely there was confusion with such species as terns here. H.M.S. Owen also had a bird thought to be this species on board off Astove Island on 15 March, 1964, and J.B.M. recorded two in the Indian Ocean at 6°N. 86°W. on 23 April, 1964. He recorded three in the Pacific at

2°S. 126°W. on 23 April, 1964, one possible at 19½°S. 178°E. on 12 May, and two at 24°S. 166½°E. on 14 May. In the Atlantic S.E.C. recorded a possible at 13°N. 72°W. on 7 March, 1964, D.S. had two at 9½°N. 16°W. on 10 April, 1963, and ten at 29°N. 13½W. on 15 April. G.S.R. had three at 10°N. 17°W. on 13 October, 1963, four at 10°N. 21°W. next day, and one at 10° N. 28°W. on 2 November, and E.P.A. had a possible one at 31°N. 15°W. on 25 October, 1963.

O. Merne and T. R. E. Devlin have recently reported them off Ireland in the autumn, provoking consequent correspondence about small Manx Shearwaters (Brit. Birds 58:189-190, 521-522), not in my opinion justified; C. Jouanin has also studied breeding behaviour on the Salvages, where they are present much of the year but breed in the early spring (Bol. Mus. Municipale do Funchal 18:142-157), and D. W. Snow that on the Galapagos, where they breed throughout the year, individuals nesting at nine-month intervals (Auk 82:591-597). This last observation upsets a good many hypotheses about petrels, and will explain a good many puzzling observations elsewhere; both papers will repay careful study.

STORM PETRELS: FAMILY *HYDROBATIDAE*

As usual, we have numbers of records where the species is uncertain, many of which are being filed until the distribution of each species is known better.

Wilson's Storm-petrel *Oceanites Oceanicus*. In the North Atlantic D.S. had 24 at 7°/N: 14°/W. on 7th April, 1964, and J.O.B. over 100 at 9½°/N. 16°/W. on 20th April, 1964, with ten in this region in summer, and north to twenty at 44°/N. 9°/ W. in the Bay of Biscay on 30th June. On Atlantic crossings K.D.A.L. saw them north to 46½°/N. 41°/.W on 23rd July, 1964, with many at 46°/N. 50½°/W. on 7th September; E.P.A. had the last northern ones at 43°/N. 9°/W. on 17th October, 1963, and G.S.R. the last probables in the tropics at 13°/N. 31°/W. on 29th November, 1963. Among records in the Indian Ocean, P.G.O.S. saw sixty when approaching North-west Sumatra on 30th August, 1964.

White-faced Storm-petrel *Pelagodroma marina*. In the Atlantic D.S. had one at 25°/N. 15½°/W. on 14th April, 1963, and S.E.C. one at 34°/N. 36°/W. on 12th June, 1964. In the Indian Ocean P.P.O.H. had birds on board at ½°/N. 84°/E. on 31st May, 1964, and 13°/N. 74°/E. on 12th July, 1964. The length of the latter was about 165mm., the wingspan about 420mm., the weight 46g. He reports numbers south of Australia in June, though it might be expected they had migrated north then; D.S. reported twenty-four at 17°/N. 56°/E. on 28th May, 1964, and P.G.O.S. storm petrels which were white below at 6°/N. 84°/E. on 1st July, 1964, with three at 5°/N. 80½°/E. next day, two at 3°/S. 73°/E. on 9th July, and two at ½°/S. 76°/E. on 16th July. K. H. Voous has recently published further notes on distribution in this area (Ardea 53:237), and C. Jouanin and F. Roux a description of the colony on the Salvages (Bol. Mus. Mun. Funchal 19:16-29).

"Fregetta" Storm-petrels *Fregetta* sp. We continue to get a number of records of these, usually identified specifically as the "White-bellied Storm-petrel" *Fregetta grallaria*, although as I have pointed out in Vol. 1 of the "Handbook of North American Birds" (ed. R. S. Palmer,

1962) the dark line down the centre of the belly said to identify the "Black-bellied Storm-petrel" *F. tropica* is always hard to see and may be missing altogether, leading to confusion with *F. grallaria*. We have now given records of this group in *Sea Swallow* 12:16-17, 13:33-34, 15:19, 30, 67, and 17:26, and it seems clear that while breeding in the south they winter throughout the tropics; but whereas *F. tropica* has been collected in the Atlantic, Pacific and Indian Oceans *F. grallaria* is only definitely known from the first two, while in many months Roger Bailey was unable to confirm its presence in the Indian Ocean (Ibis 108: 242-243) so definite proof of its occurrence in the form of good records of birds which come on board is still urgently required there.

Meanwhile, this year E.P.A. reports *"F. grallaria"* from 52°'S. 43°'W. on 2nd March, 1964, and another on board between Tristan and St. Helena on 20th April. One would expect *F. tropica* in the first area, and the dimensions given for the second—tarsus 39mm., middle toe 26mm.—suggest it may also have been the pale-breasted race *F. t. melanoleuca* from Gough Island; its length was 180mm. and its wingspan 422mm. In the Indian Ocean P.P.O.H. reports *"F. grallaria"* with a white breast from 21°'N. 63°'E. on 14th July, 1964, with two at 17°'N. 69°'E. on 13th July, and three at 14½°'N. 67½°'E. on 22nd July (water temperatures 24—25°C.). In the Pacific J.B.M. reports three or more at 6°'S. 144½°'W. on 4th May, 1964.

British Storm-petrel *Hydrobates pelagicus*. In addition to various records in West European and Mediterranean waters, J.O.B. reports fifty in the wake at 17°'N. 17½°'W. on 20th March, 1964, with some so close that he could see the distinctive pale mark on the underwing through the stern porthole; one was said to have come aboard that night, and they were still there at 12°'N. 18°'W. next day, and 8°'N. 14½°'W. the day after, and at 7½°'N. 13½°'W. on the return voyage, with decreasing numbers to 14½°'N. 18°'W. on 28th March, 1964. It seems debatable whether these birds had been there all winter or were on return passage from winterquarters off South Africa, where a British-ringed bird has recently been recovered in Table Bay; but G.S.R. also saw possible birds at 19°'N. 30°'W. on 13th and 14th January, 1964. A number of correspondents have recently documented in letters to "British Birds" how Greater Black-backed Gulls are now increasing and killing many of these birds on the breeding grounds (58:219–220, 444–446, 522–523).

Galapagos Storm-petrel *Oceanodroma tethys*. Several people report them at sea west of Central America. J.B.M. had three more at 2½°'N. 102°'W. on 26th April, 1964, E.J.D. two at 7½°'N. 82°'W. on 22nd June, J.E.C.many astern crossing the wake only feet away at 7½°'N. 82°'W. on 26th July, and W.A.K. had one aboard at 17°'N. 101°'W. on 4th August; he comments that the overall length, 149mm., does not agree with the books, but the wing of 133mm., tail of 60mm. and tarsus of 22mm. do; the wingspan was 288mm. Lengths and wingspans given in books are commonly wrong, being taken from skins, and it is always useful to have measurements and weights taken from live birds.

Madeiran Storm-petrel *Oceanodroma castro*. E.P.A. reports one at 31½°'N. 14°'W. on 23rd October, 1963, commenting that it was larger than Wilson's Petrel with a faster wing-beat and a distinctly forked tail, and that the white rump was thicker than with Leach's Petrel, with much white under the tail. G.S.R. also reported "probables" off

West Africa, ranging from eighteen at 10°′N. 17°′W. on 30th October, 1963, to one at 19°′N. 52°′W. on 6th January, 1964, though there may have been some confusion with wintering Leach's Petrels in this area.

Leach's Storm-petrel *Oceanodroma leucorhoa*. K.D.A.L. saw them regularly between Britain and New York in late summer, with many at 46°′N. 50½°′W. on 3rd August, 1964, and again at 45°′N. 45°′W. on 26th August, and the most easterly several at 54½°′N. 23°′W. on 16th October. S.E.C. reported two at 34°′N. 36°′W. on 29th April, 1964, and G.S.R. six probables at 19°′N. 18½°′W. on 16th January, 1964, and others off British Guiana in the spring, discussed later in *Sea Swallow*, where A. B. Floyd had one on board; W.A.K. also reports one on board off California in March. The length was reported as 185 and 194mm., the wingspan as 330mm. in both cases. An abstract of a talk by D. E. Baird on the species' ecology suggesting it feeds by skimming and filtering with its bill, will be found in Ibis 107:426; R. I. Bowman reports on the breeding of this and the Ashy Storm-petrel *O. homochroa* on the Farallon Islands, California, in Condor 6: 410-416.

Swinhoe's Storm-petrel *Oceanodroma monorhis*. *K.D.A.L.* reports one at 35°′N. 147°′E. on 7th April, 1964. It seems likely that small dark petrels seen off Taiwan and the Riu Kiu Islands by A. S. Cheke in August, 1963, were this species (Misc. Rep. Yamashina's Inst. Orn. Zool. 4:118–120).

(A dark petrel larger than a Storm-petrel with a swift, erratic flight reported by P.P.O.H. from 1°′N. 78°′E. in the Indian Ocean on 25th July, 1964, may have been one of the big *Oceanodroma* species, perhaps Matsudeira's Storm-petrel *O. matsudeirae*, or perhaps Bulwer's Petrel; as may the birds which A. S. Cheke put down as *"Puffinus tenuirostris"* between Taiwan and Japan in August; the latter would not be expected there at that season).

Least Storm-petrel *Halocyptena microsoma*. W.A.K. saw numbers while drifting off Cape San Lucas at 22°N. 109½°W. from 8 to 11 March, 1964; the overall length of one that came aboard was 147mm., the wingspan 302mm. S.E.C. saw two feeding among resting gulls in the harbour of S. Jose de Guatemala on 28 March, 1964; they were rather smaller than British Storm-petrels but with a similar flight, with sooty brown plumage showing a trace of grey on the wing coverts, and short, rounded tails.

TROPIC BIRDS: FAMILY *PHAETHONTIDAE*

As usual, there are a number of reports, only some of which are referred to particular species, not always reliably. In the North Atlantic D.S. saw one Red-billed Tropic-bird *P. aethereus* at 13°N. 17½°W. on 11 April, 1963, and G.S.R. saw another nearby at 13°N. 18°W. on 3 December, 1963. Along the 16th parallel of latitude he also saw tropic birds at 25° and 34°W. on 10 and 12 December, and along the 19th parallel he saw them at 61° and 52°W. on 4 and 6 January, 1964. K.D.A.L. saw a White-tailed Tropic-bird *P. lepturus* at 24°N. 48°W. on 13 January, 1964. J.O.B. a tropic-bird at 22°N. 56½°W. on 4 March, 1964, and S.E.C. two at 22½°N. 57°W. on 16 June, 1964. A chart of records from Woods Hole Oceanographic Institute by W. S. Butcher (Oceanus 12:10) shows a concentration of records of White-billed Tropic-birds around and north-west of the

colony on Bermuda in summer, with dispersal south-east in winter, though the records may be unrepresentative for lack of data to the east; the bird reported off West Africa seems more likely to be a Red-billed Tropic-bird.

There are more records in the Indian Ocean, including the usual Red-billed in the northern Arabian Sea and also one reported by P.P.O.H. at 12½°S. 95°E. near Cocos Island on 3 June, 1964, where confusion with Red-tailed Tropic-birds *P. rubricauda* is likely. R. Worrall recorded one of these on board off Astove Island on 16 March, 1964, and P.G.O.S. had one at 2°N. 93½°E. on 29 June, 1964, with a number of other records of single tropic-birds east along the equator to the region of the Maldives until August. In the Pacific K.D.A.L. had a White-tailed Tropic-bird at 24½°N. 151°W. on 15 April, 1964. J.H.A. had one on board at 27°S. 167°W. on 26 March, 1964, with an overall length of 500mm. and a wingspan of 840mm., which vomited small cuttle fish; and J.B.M. had a Red-tailed Tropic-bird at 24°S. 166½°E. on 14 May, 1964. D. W. Snow reports that in the Galapagos, on an island where there are only a few Red-billed Tropic-birds, they nest in October-November, but that at another colony where there is gross overcrowding, some birds breed throughout the year (Condor 67:210-214).

GANNETS AND BOOBIES: FAMILY *SULIDAE*

Northern, Cape and Australian Gannets *Moris (b.) bassanus, M. (b) capensis* and *M. (b) serrator*. There are the usual records for Western Europe; to the south in the winter quarters J.O.B. saw 200, 90% immature, at 26½°N. 15°W. on 18 March, 1964, with others south to 12°N. 18°W. three days later and again on the return voyage in April. J. T. R. Sharrock has reviewed six years' records of 320,286 seen passing Cape Clear in South-west Ireland, and reports that they all normally go west there, (presumably east-bound birds go by too far out to sea to be counted), with the passage reaching a maximum rate 150 birds per hour in early May and 270 per hour in August and September, and 40% of the birds immature in summer but less than 10% in winter (Brit. Birds 58: 216). S. Spano has also summarised the surprising number of records for Italy (Riv. Ital. Orn. 35:1-33), and in Britain J. M. Boyd has applied several techniques to counting the great Gannetry on St. Kilda (J. Anim. Ecol. 30:117-136), and J. H. Barrett and M. P. Harris have counted the smaller one on Grassholm (Brit. Birds 58:201). In Australia R. H. Green and D. Macdonald, and also J. L. McKeen have counted two much smaller colonies reduced by fishermen to a few hundred pairs, and the latter has shown with ringing that their movements are much the same as in the north, with young birds moving into low latitudes after fledging (Emu 63:177-184, 65:159-164).

J. B. Nelson continues to publish the results of his studies on the Bass Rock; birds return to breed in not only the colony but the part of the colony where they hatched, take up a site for a year before breeding, and then mate for life. Experienced breeders incubate more efficiently; the young take 84—97 days to fledge, and when he gave the birds twins they took a bit longer, but fledged successfully in the end; normal fledging success is 92%. The old birds feed the young till they fledge, and then the young fly out to sea, though once they settle on the water they are unable to take off again at first (there

still seems rather a gap in what is known about their fate after fledging). He thinks they are unusually aggressive birds (Scot. Nat. 71:47-59; Brit. Birds 58:233-288, 313-336; Biol. J. 3:1-8; Ibis 108:157-158).

Blue-faced or Masked Booby *Sula dactylatra.* There are the usual records from the coast of Arabia. Elsewhere in the Indian Ocean P.P.O.H. reported flocks of up to fifty near Cocos Keeling Island at 12½°S. 95°E. on 3 June, 1964, five at 8°S. 120°E. on 1 July, and one at 4°S. 46½°E. on 30 July. In the East Pacific W.A.K. reported four at 12°N. 91½°W. on 5 March, 1964, and J.B.M. one at 4°N. 96½°W. on 25 April, 1964. J. L. Mckeen and D. Moroney report the occurence of a bird ringed on Lord Howe Island in New South Wales (Emu 65: 163).

Red-footed Booby *Sula sula.* In the Atlantic S.E.C. reports one and two at 16½°N. 67°W. on 6 March and 18 June, 1964. In the Pacific J.B.M. reports one at 21½°S. 172°E. on 13 May, 1964. In the Indian Ocean W.N.H.J. had one at 12½°S. 96°E. near Cocos Keeling Island on 13 May, 1964, and J.H.A. one at 8½°S. 101°E. on 21 June, 1964, and again at 8°S. 97°E. next day, 8°S. 92½°E. on the day after, and 3½°S. 75°E. on 26 June; they followed flying fish and caught them as they re-entered the water. R. Worrell had a young bird aboard off Wizard Island, Cosmoledo Atoll on 14 March, 1964.

Brown Booby *Sula leucogaster.* We continue to have more records of this, the common inshore species. In the Atlantic G.S.R. had one at 10°N. 50°W. on 8 November, 1963, 42 at 10°N. 55°W. next day, and 14 at 13°N. 57°W. on 21 November. In the East Pacific W.A.K. reports one at 15°N. 98°W. on 6 March, 1963, S.E.C. small groups at 7°N. 81°W. on 26 June, 1964, and J.B.M. several at 7°N. 80½°W. on 22 April, 1964, three at 6°N. 86°W. next day, six at 5°N. 91½°W. on the day after, and four at 4°N. 96½°W. on 25 April. Around the East Indies J.N.H. saw two at 5°N. 114°E. on 26 September, 1963, and one off Tanjong next day, P.P.O.H. had five at 11°S. 141°E. on 28 June, 1964, two at 8°S 127°E. next day, and one at 6°S. 114°E. on 2 July, and J.H.A. had one at 9½°S. 114°E on 19 June, 1964, and two at 9°S. 108½°E. next day. In the western Indian Ocean one was seen from H.M.S. Owen at 9½°S. 52°E. on 24 March, 1964, and W.N.H.J. reports six from 23½°N. 60½°E. on 26 January, 1964.

H.M.S. Owen landed a party in the Zubair Group in the southern Red Sea on 17-20 April, 1964; they report that some 6,000-10,000 birds were present around the group, visiting all the islands, with some 250 pairs on Quoin Island where they landed, where there were young birds approaching the flying stage but no small young. In Sea Swallow 15:57-58 we reported that they found much breeding in the nearby Hanish group in November, 1961, although it was over by May, 1962, so it seems possible that autumn and winter breeding may be normal here. However, the evidence continues to accumulate that the breeding behaviour of the species may be complicated; K.E.L. Simmons has been continuing the work of the B.O.U. Expedition on Ascension which we noticed last year, and reports that the eight-month repetition of peaks in breeding which they observed is actually short for a successful cycle, and that this cycle broke down when shoaling fish, probably *Selar crumenopthalmus,* moved inshore in 1962, when the birds extended their breeding season, their breeding success rose from 12% to 50%, and in one case they managed to rear two young. When the fish departed again they returned to the unsuccessful eight-month cycle (Ibis 107: 429).

CORMORANTS AND SHAGS: FAMILY *PHALACROCORACIDAE*

We have notes of concentrations from the two great guano-producing areas off South-west Africa, where C.C.A. reported hundreds of Cape Cormorants *Phalacrocorax capensis* and fifty African White-breasted Cormorants *P. lucidus* at Walvis Bay on 30 October (he reports that the first fed in the bay and roosted on jetties and barges, but the second were shy and kept out to sea); and off western South America, where S.E.C. reports tens of thousands of Guanays giving strong radar echoes at 15°S. 76°W. off Paita on 10 November, 1963, and again at 15½°S. 75½°W. on 16 November. He also saw a flock in Valparaiso Bay on 22 November, 1963. A. W. Johnson gives an account of these birds with a report of nesting in Chile in Bull. Brit. Orn. Cl. 86:73-75. Among other records J. G. Williams reports the South African White-breasted Cormorant *P. lucidus* breeding alongside the Common Cormorant *P. carbo* on Lake Edward, Uganda, so that these birds, treated os subspecies by Alexander, will now have to be regarded as distinct species (Bull. Brit. Orn. Cl. 86:48-50), and J. C. Coulson and G. R. Potts have developed studies of movements and seasonal mortality and the effect of age on breeding behaviour on Common Cormorants and Shags *P. aristotelis* on the Farne Islands, North-east England (Brit. Birds 54: 225-235, Ibis 107: 428).

FRIGATE-BIRDS: FAMILY *FREGATIDAE*

We continue to get a number of records, only some of which are identified to species not always reliably. In the Western Atlantic G.S.R. reports three Magnificent Frigate-birds *Fregata magnificens* at 10°N. 60°W. on 11 November, 1963, and one at 19°N. 59°W. on 5 January, 1964, and S.E.C. two at 19½°N. 62°W. on 5 March, 1964. E. Nieboer also reports a bird far out at sea here (Ardea 53: 236), but A. Bombard has already reported seeing them all across the Atlantic in this region in his book, "The Bombard Story" (London, 1963). Unfortunately, R. de Naurois reports that the only African colony on Boavista in the Cape Verde Islands is in great danger and is now reduced to under 30 pairs (Garcia de Orta 12:609-620). The species continues abundant in Central America; in addition to records around the Panama Canal, S.E.C. saw them at 18½°N. 67½°W. on 23 April, 1964, and W.A.K. reported hundreds over whales at 24°N. 112°W. on 2 August, 1964. J. B. Nelson has also recently produced a popular account of the strong colonies of this and the Great Frigate-Bird *F. minor* in the Galapagos in Nat. Hist. 75:33-38, with excellent pictures.

Around the East Indies J.H.A. reports a Great Frigate-bird flying very high 105 miles west of Thursday Island on 15 June, 1964, and P.P.O.H. reports 14 at 8°S. 127°E. 6½ miles north of Pt. Curo, Timor, on 29 June, 1964, with descriptions of Christmas and Lesser Frigate-birds *F. andrewsi* and *F. ariel;* he also saw several Frigate-birds at 6°S. 114°E. on 2 July, 2°S. 109°E. next day, and seven, including three Lessers at 2°N. 102°E. on 7 July. P.G.O.S. reports many frigate-birds off North-west Sumatra in late August, 1964; further west in the Indian Ocean he saw one at 1°S. 74°E. on 17 July, three during the day at 3-4°S. 73°E. next day, one at 7°S. 56°E. on 9 August, and one at 2°S. 53°E. on 20 August.

PHALAROPES: FAMILY *PHALAROPOPIDAE*

We have the usual records from West Africa and South Arabia; P.P.O.H. reports a thousand at 16°N. 53°E. on 17 August, 1964, and several thousand at 15°N. 51½°E. on 22 September. We still wait proof that Grey Phalaropes *Phalaropus fulicarius* occur in this area, or Red-necked *P. lobatus* off West Africa, and it would be useful if particular attention could be paid to any birds that come aboard.

SKUAS OR JAEGERS : FAMILY *STERCORARIIDAE*

V. C. Wynne Edwards has provided a useful general account of all species in vol. 12 of the "Birds of the British Isles" by D. A. Bannerman (1963). Among other literature, L. E. Williams has analysed occurrences on the Gulf Coast of the U.S.A.; the majority of 160 records occurred at the seasons of migration, with 85 Arctic to 43 Pomarines and 6 Longtails; he suggests they must cross North America overland (Auk 82: 19-25). They have to cross the Old World to reach the Indian Ocean too, of course. The fact that there are also large migrations at sea is demonstrated by 76 birds seen by R.W. at 49°N. 41°W. on 23 April, 1964, including 12 Pomarines and 3 Longtails, with 41 going S., 10 NW, 2 NE, B 1 and 8 SE.

Great and McCormick's Skuas *Catharacta skua* and *C. (s.?) maccormicki*. In the North Atlantic, Bayes and others have censused the Faroe population, which has risen from 4 pairs in 1897 to 530 in 1961, and Sir Landsborough Thompson has analysed British ringing recoveries. Soon after fledging young birds may be recovered on the far side of the North Sea or long distances inland in Europe, with a notable wreck in 1963, and most later recoveries come from the east coast of the Atlantic to the south, with a few in the west. Some birds have been recovered in their third summer well north of their breeding places in Greenland, and after this they start to be recovered back on the breeding grounds (Dansk Orn. Foren. Tidssk. 58: 36, Brit. Birds 58: 1-15).

Our reports this year cover the usual NE Atlantic records, west to birds seen by K.D.A.L. at 42°N. 60°W. and 43½°N. 60°W. on 25 July and 12 October, 1964, and south to eight seen with Pomarine Skuas by D.S. at 25°N. 15½°W. on 14 April, 1963, with one at 28½°N. 13½°W. next day, after the hard winter. In the South Atlantic E.P.A. found them numerous after a storm at about 30°S. 50°W. on 23 November, 1963, with more around the Falklands and their dependencies in the succeeding southern summer. S.E.C. on the other side of South America also reported them south from 47½°S. 75°W. on 1 December, 1963. K.D.A.L. reports them from 25°N. to 126°E. on 31 March, 1964, in the eastern north Pacific, and M. M. Sleptsov has recorded them much further north in the waters of the U.S.S.R. (Ornitologia 6: 482). In the Indian Ocean W. F. J. Morzer Bruyns with K. H. Voous and Roger Bailey report occurrences along the south coast of Arabia, where we have been having occasional reports for some years (Ardea 53; 80-81, Ibis 108: 245-246); J.H.A. saw one 150 miles WSW of Cape Guardafui on 1 July, 1964, and D. Worrall on H.M.S. Owen two probable birds with Sooty Terns at 16½°S. 57°E. on 1 April, 1964, and one at 19½°S. 57½°E. on 4 April. P.P.O.H. saw one at 39°S. 143°E. off Tasmania on 11 June, 1964.

I. F. Spellerberg reports Great Skuas occurring with McCormick's Skuas in the Balleny Islands off Antarctica south of New Zealand in

March, 1964 (Ibis 107: 106). It still does not seem entirely clear to what extent the breeding and winter ranges of these birds overlap, and therefore whether they should or should not be treated as distinct species.

Pomarine Skua *Stercorarius pomarinus*. As usual there are most off West Africa. Away from there, W.A.K. reports one five miles south of the SE point of Great Inagua Island on 29 February, 1964, with four at 15°N. 77°W. on 1 March, J.O.B. saw two at 16½°N. 67°W. on 6 March, 1964, five at 13°N. 72°W. next day, two at 31½°N. 42°W. on 28 April, one at 46°N. 24°W. on 1 May, and three at 43°N. 18°W. next day, while R.W. saw the twelve already mentioned in a skua passage at 49°N. 41°W. on 23 April, 1964, with one at 51°N. 20°W. two days later. D.S. saw a possible bird in Port Said roads on 21 May, 1964, one attacking a Jouanin's Petrel at 22°N. 60°E. on 29 May, and one at 29°N. 50°E. on 31 May; P.P.O.H. also reports one at 29°N. 49°E. on 23 April, 1964.

Arctic Skua *Stercorarius parasiticus*. W.A.K. reports one at 35½°N. 49½°W. on 23 February, 1964, with several at 15°N. 98°W. on 6 March; we usually get Pomarines reported in the Caribbean area, but the figures reported by Williams quoted above suggests that Arctics may also be common on passage. A. C. Perdeck describes the early breeding behaviour in Ardea 51: 1-15.

Long-tailed Skua *Stercorarius longicaudus*. R.W. saw three in the skua passage described earlier at 49°N. 41°W. on 23 April, 1964. K.D.A.L. had a number of records on autumn Atlantic crossings, starting with six at 48°N. 36°W. on 25 August, 1964, with four at 40½°N. 71½°W. on 29 August, one at 41°N. 68°W. on 5 September, two at 52°N. 24°W. on 10 September and at 52°N. 40°W on 29 September, three at 42°N. 65½°W. on 2 October, two at 41°N 68°W. on 11 October, and one at 43½°N. 60°W. on 12 October. D. G. Bell provides a popular account of the species to accompany illustrations in Brit. Birds 58:139-145.

GULLS: FAMILY *LARIDAE*

We continue to get many records, the majority from well-known coasts and harbours which add little to existing knowledge. They also continue the subjects of a variety of research throughout the world. Among items of general interest not easily classified under species are records of gulls attacking migrant thrushes over the North Sea and storm-petrels on the breeding grounds in Britain (J. H. Hobbs, J. L. F. Parslow *et al.*, Brit. Birds 52: 313, 58: 219-220, 444-446, 522-523) comparative studies of other foods there and the ability of the birds to raise unusually large broods by M. P. Harris, Ibis 107: 43-53, 256-257); studies of cliff-nesting adaptations in arctic and tropical species by N. G. Smith and J. P. Hailman (Ibis 108:68-83, Wilson Bull. 77:346), and a key for identifying immature birds of the larger species of Japan by H. Yamanoto (Misc. Rep. Yamashina's Inst. Orn. Zool. 2:358-362).

Ivory Gull *Pagophila eburnea*. F. Salomonsen has reviewed the breeding status in Greenland in Dansk Orn. Foren. Tidsskr. 55:177-180.

Audouin's Gull *Larus audouini* D. de Bournonville discusses a colony in Corsica in Gerfaut 54:439-453.

Herring Gull *Larus argentatus*. W. H. Drury describes population control by spraying eggs to kill them, and colour marking experiments

which show the birds travel up to twenty miles to garbage, in a cyclostyled report of the Massachusetts Audubon Society. S. Anderson investigated birds killed with poison bait in Sweden and found a consistent sexual difference in the size of the bill and tarsus in var Fagelvarld 23: 337-347. A. O. Gross lists some records of albinism mainly in the Bay of Fundy region in Auk 81:551-552. L. A. Portenko considers this species and the Slaty-backed Gull *L. schistisagus* conspecific and describes an intermediate race *L. a ochotensis* in Fauna Kamschatskay oblastiy A.N.S.S.R. F. S. L. Williamson and L. Peyton also report interbreeding of Herring and Glaucous-winged Gulls in Alaska (Condor 65: 24-28), and J R. Jehl and R. C. Frohling two Herring-Glaucous Gull Hybrids in New Jersey (Auk 82:498) to add to the evidence that even the gulls themselves are uncertain of their systematic position.

Glaucous-winged Gull *Larus glaucescens.* The breeding biology is discussed by K. Vermeer in Occas. Papers Brit. Columbia Prov. Mus. 13:1-104, and he and others also report variations in size and leg colour in birds wintering in British Columbia in Condor 65:332-333; perhaps a consequence of the breeding aberrations in Alaska already mentioned. Ringing results are analysed by T. Pearse in Bird Banding 34:30-36.

Thayer's Gull *Larus thayeri.* In the course of discussing cliff-nesting by gulls in the Canadian archipelago N. G. Smith presents a re-assessment of the local systematics, recognising the presence of Herring Gulls, Kumlien's Gull as a race of the Iceland *L. leucopterus kumlieni,* and a third species which breeds alongside them, Thayer's Gull. Apparently while the other two are migrants which attract attention elsewhere, Thayer's Gull is comparatively sedentary in this remote area, so it has received less notice; it is very like the other two, the three species differing mainly in such characters as the colour of the orbital ring (Ibis 108:68-83).

Lesser Black-backed Gull *Larus fuscus.* J. A. G. Barnes has recently investigated the increasing tendency of this otherwise highly-migratory species to winter in Britain, reporting a nine-fold increase in ten years to 2,800 birds, mainly in urban areas around London and the West Midlands (Bird Study 8: 127-147). K. H. Voous discusses the European geographical variation and reports birds in summer at Mombasa in Ardea 51: 16-24 and 53-83. R. G. B. Brown summarises work on display, postulating that courtship feeding may actually serve a useful purpose when the female is laying down eggs, and that social displays serve to synchronise laying dates in the colony, in Ibis 107: 427. J. M. Harrison reports a possible hybrid with the Common Gull *Larus canus* in Bull. Brit. Orn. Cl. 85:67-70.

Great Black-backed Gull *Larus marinus.* M. P. Harris discusses weights and measurements, showing that males are larger, in Brit. Birds 57:71-75. This species is apparently the main culprit taking storm-petrels at the breeding colonies, as reported above.

Glaucous Gull *Larus hyperboreus.* E.P.A. reports one at sea off North-west Iberia at 43°N. 10°W. on 17 October, 1963. Hybrids with Herring Gulls are mentioned above.

Great Black-headed Gull *Larus ichthyaetus.* G. I. Ishunin has published a paper on its feeding in the Region of Sivash Island, in Ornitologia 6:471-472.

Laughing Gull *Larus atricilla*. We have the usual records from the east coast of the Americas. T. Albriktson and R. Berudtsson have also recently reported the first European bird, an immature at Gotenburg on 18-20 January, 1964 (var Fagelvarld 24:289-293). J. P. Hailman has also investigated tarsus length as an indication of the age of chicks, and found it inconclusive (Bird Banding 32: 223-226).

Franklin's Gull *Larus pipixcan*. S.E.C. reports numbers down the west coast of South America in November and December, 1963. M. K. Swales and R. C. Murphy have also reported one from Tristan da Cunha in February, 1956 (Ibis 107: 394), to add to the Pacific island records cited last year.

Silver Gull *Larus novaehollandiae*. J.H.A. reports thirty on Oswald Shoal of the Australian Great Barrier Reef at 14°20′S. 144°40′E. on 14 June, 1964. The biology of the species has recently been reviewed by W. R. Wheeler and R. Watson in Emu 63:99-173, and also by R. Carrick and M. D. Murray in C.S.I.R.O. Wildl. Res. 9:160-199, who conclude that they are partial migrants whose numbers are controlled by the food supply outside the breeding season, that there are more birds than the available breeding sites can accommodate, and that the individual aggressiveness of the birds determines which are able to breed there, while the rest are unable to breed. The New Zealand populations have been surveyed by L. Gurr and F. C. Kinksky, who find that they are concentrated in a few large colonies mainly in the east (Notornis 12:223-240).

Buller's or the Black-billed Gull *Larus bulleri*. Clutch-size and incubation are discussed by C. G. Beer in Auk 82: 1-18.

Northern Black-headed Gull *Larous ridibundus*. Censuses of English and Scottish colonies are reported by F. C. Gribble and F. Hamilton in Bird Study 9: 56-79, incubating and nest-building behaviour by C. G. Beer in Behaviour 18:62-106, and the timing and spacing of broods by I. J. Patterson in Ibis 107:433-459.

Slender-billed Gulls *Larus genei*. C. Erard adds to his studies of the distribution of this species, which showed well-defined migrations from the Black and Caspian Seas to those bordering Arabia and the Southern Mediterranean, and H. de Balsac reports the discovery by R. de Naurois of additional breeding colonies in West Africa, in Alauda 32:245-249 and 283-296.

Bonapart's Gull *Larus philadelphia*. S.E.C. reports what appears to be this species in the harbour at Paita, Peru. It was only seen briefly. The head was possibly dusky; the primaries black with white markings towards the tips and a broad white margin to the outer primaries and primary coverts, with the underside of the primaries black. The mantle was grey, the tail and underparts white with no sign of a rosy tinge, the bill black with a reddish tinge to the upper mandible, the legs and feet possibly red. The alternative seems to be the Patagonian Black-headed Gull *L. maculipennis*, and either would be unusual.

Little Gull *Larus minutus*. G. I. Knötzsch documents the migration over Central Europe, where it apparently occurs regularly in Switzerland, in Orn. Beob. 61:34-42; R. F. Ruttledge summarises the growing number of Irish records, where it has now occurred in every month except July, with most in September and May, in Irish Nat. J. 14:153-154.

Kittiwake *Rissa tridacyla*. K.D.A.L. reported that they re-appeared in the Central Atlantic in late August and September. E. Pullainen reports invasions in Finland in February and March, 1927, 1959 and 1962, following storms in the Atlantic, where otherwise they only get strays (Ornis. Fenn. 39:81-96). A. N. Golovkin has a pioneer study of fish consumption by this species and guillemots in the Barents Sea in Zool. Zh. 42:408-416, and V. P. Shuntov surveys the summer distribution of the two species of kittiwake in the Bering Sea in Ornitologia 6:325-330. J. C. Coulson summarises outstandingly interesting work which suggests that paired Kittiwakes usually breed more successfully with the passage of time, but that some prove incompatible, in which case they get a divorce in Ibis 107:427.

The Galapagos or Swallow-tailed Gull *Creagrus furcatus*. J. P. Hailman continues his work on this species, reporting that it breeds continuously but that groups nest simultaneously, and that it shows various cliff-nesting adaptations (Amer. Nat. 98:79-83, Wilson Bull. 77:346).

Sabine's Gull *Xema sabini*. In the Atlantic E.P.A. saw one at 43° N. 4½° W. on 17 October, 1963; D.S. saw three at 8° N. 14° W. on 7 April, 1964, one at 9½° N. 16° W. on 10 April, three at 13° N. 17½° W. next day, four at 21½° N. 17½° W. on 13 April and one at 25° N. 15½° W. on 14 April; and J.O.B. saw one at 16° N. 18° W. on 24 May, 1964. In the Pacific S.E.C. saw a possible bird in Valparaiso Bay on 22 November, 1963, and 150-200 followed by 90 with a few Franklin's Gulls off the Pescadores, Peru, on 18 December, 1963. N. Mayaud gives further notes on the Atlantic winter quarters in Alauda 33:81-83.

TERNS: FAMILY *STERNIDAE*

Here also the majority of species occur further inshore than they can usually be seen from seagoing vessels, so we get comparatively few records. Among general publications, H. Lind has described aspects of their social behaviour (Dans. Orn. Foren. Tidsskr. 57:155-175), W. B. Robertson has documented the history of the great colony of tropical seabirds on the Dry Tortugas off Florida, with up to 190,000 Sooties, up to 35,000 Noddies, and lesser numbers of Roseate, Least and in the past Royal and Sandwich Terns, and exceptionally Black Noddies (Bull, Florida State, Mus. 8: 1-94, Florida Nat. 38: 131-138). Elsewhere in the Caribbean K. H. Voous has reported on the considerable colonies of six species of tern and the Laughing Gull along the north coast of South America (Proc. XIII In. Orn. Congr. Ithaca 1962:1214-1216; Ibis 107:430-431), H. Sick and A. P. A. Leao have reported Cayenne and South American Terns breeding with Brown Boobies and Frigate-birds in Brazil in July, 1963 (Auk. 62:507-508), H. de Balsac has reported further important discoveries of breeding seabirds in West Africa, including Gull-billed, Common, Royal, Caspian, Bridled and Sooty Terns among other species (Alauda 27: 144, 32: 245-249), and E. C. Dickinson and J. A. Tubb have reported on colonies of Bridled and Black-naped, and possibly also Roseate Terns breeding off Siam in June and July (Nat. Hist. Bull. Siam. Soc. 20:321-324). J. H. Taverner reports on the aggressive and other behaviour of Common and Sandwich Terns breeding on Southampton Water, England, in Brit. Birds 58:5-9.

Black Tern *Chlidonias nigra*. There are the usual records from winter quarters off West Africa and tropical America. Among others, D.S. reports a thousand adult and immature Black and Common Terns at 8°N. 14°W. on 7 April, 1963, and a continuous stream of terns, mostly Black with some immature Common and possibly some Roseate, flying north into the wind at 21½°N. 17½°W. on 13 April; there could have been ten thousand in all. S.E.C. reported a dozen in Acajutla, Guatemala, on the west coast of tropical America on 9 and 12 July, 1964, and more in the Panama Canal on 27 July.

Large-billed Tern *Phaetusa simplex*. S.E.C. reports ten on Las Flores mudflats, Baranquilla, Colombia, on 20 June, 1964.

Caspian Tern *Hydroprogne caspia*. J. P. Ludwig reports on the birds of the Great Lakes in North America in Bird Banding 36:217-233. There were some 1,620 pairs in 1964; their numbers apparently depend upon the fortunes of the alewife fish. They winter on the Caribbean, and young birds spend their first year there; in 1963-64 the average clutch-size was 2.8, the hatching rate 0.8, and the fledging rate 1.6 chicks per pair. 62% fledged young die before maturity, and adults have an 11.1% mortality per year, averaging 8.9 years of productivity. A quarter of the recoveries are due to shooting.

Arctic Tern *Sterna paradisea*. K.D.A.L. reports a number of terns on Atlantic crossings in August which were presumably this species on the first leg of its migration from Arctic Canada to West Africa; they include 28 at 50°N. 26°W. on 24 August and five at 48°N. 36°W. on 28 August. E.P.A. reports four terns with red bills at about 15°N. 30°W. on 28 October which seem likely to be this species further along its route, and various terns around the Falkland Islands and their dependencies in the following southern summer which seem likely to be wintering birds or the Wreathed Tern *Sterna vittata*. M. J. Imber reports one in New Zealand in Notornis 12: 157, M. Norderhaug describes behaviour in Spitsbergen in Fauna 17: 137-154, commenting on the large annual variation in their productivity.

Forster's Tern *Sterna forsteri*. S.E.C. identifies as this species a bird seen on a buoy off Tigre Island, San Lorengo, Honduras, on 8 April, 1964. It was like a Common Tern, but the bill was blackish with a white tip, the legs blackish, the forehead and chin white with a black streak behind the eye, the wing pale grey with dark primaries.

Bridled Tern *Sterna anaethetus*. M.B.C. supplies a bird-in-hand form from 22½°N. 37½°E. in the Red Sea on 9 May, 1963, giving the overall length as 381mm. and the wingspan as 780mm.; and J.H.A. one from 8½°S. 138½°E., 18 miles off Timor, giving the length as 275mm. and the wing span as 750mm.; it had a short tail.

Sooty Tern *Sterna fuscata*. As usual, there are many records at sea in the tropics. In the Atlantic C.C.A. had one on board at ½°N. 9½°W. on 27 March, 1963, and reports the length as 16ins.=ca. 400mm., while in the Caribbean S.E.C. reports fifteen at 13°N. 72°W. on 7 March, 1964, and 25 at 18½°N. 67½°W. on 23 April. In the Pacific K.D.A.L. reports seeing them at 23½°N. 162°W. on 12 April, 1964, and J.B.M. a large flock over a shoal of tuna at 8½°S. 156½°W. on 6 May, 1964. In the Indian Ocean R. Worrall on H.M.S. Owen reports ten feeding at 9½°S. 52°E. on 24 March, 1964, flocks of 30-200 feeding and moving south all day on the South-west Seychelles Bank

on 25 March, 30 at 15½°S. 57°E., later further flocks of 30-60 with shearwaters and skuas at 16½°S. 57°E. on 1 April, and about a thousand thirty miles north of Mauritius next day. P.G.O.S., of H.M.S. Dampier, reports one on board at 7°S. 62°E. on 5 August, 1964 (length 15½ins. =ca. 390mm.), a number around 9°S. 58°E. next day, several at 7°S. 56°E. the day after, hundreds all night, some landing on board, as they passed des Noefs Island at 7°S. 57½°E. on 11 August, numbers at 7½°S. 52½°E. next day, many at 2°S. 53°E. on 20 August, and one at 1°S. 62°E. next day. J.H.A. saw fifteen at 1°N. 64°E. on 28 June, 1964, and P.P.O.H. one at 3°S. 52°E. on 9 July, 1964, and two flocks at 3½°S. 48½°E. on 30 July. Around South Arabia D.S. also reports 25 at 16½°N. 41°E. on 25 May, 1964, ten among many Bridled at 26½°N. 56°E. on 30 May, and six among Bridled at 29°N. 50°E. next day; but the general impression is that there are few here except for the small colony on Mait Island off northern Somaliland, and most records result from confusion with Bridled, which are abundant in the Red Sea and Persian Gulf.

Among various reports in the literature, the history by W. P Robertson of the great colony on the Dry Tortugas off Florida has already been mentioned; he reports in the Nigerian Field 30:190-191 that the 125,000 ringed since 1959 have resulted in thirteen recoveries of young birds on the far side of the Atlantic in the Gulf of Guinea, two in the 1st October, three in November, two each in January and February, one each in April and June, and one in the following October. It was not known that this species had such well-marked migrations, but it appears that this northern population at least does, and that the young birds spend the first year in their winter quarters like other terns; coloured streamers are now being fixed to them to help trace their movements. H. de Balsac reports that the Abbé de Naurois has now also found large breeding colonies in the Gulf of Guinea, clearly an important area for these birds (Alauda 32 :245-249). Among other notes, W. F. J. Mörzer Bruyns and K. H. Voous report that a bird that came aboard 100 miles off California at 2100hrs. vomited a deep-sea fish, *Vinciguerria cf. lucetia* (Garman), which suggests feeding on animals brought up in upwelling water after dark; P. Meeth reports an immature near Seville in Spain on 18 May, 1963; and F. Haverschmidt found two dead inland in Surinam in January and March, 1963; it is not clear why, though like those reported in the Gulf of Guinea one presumes they may be wrecked in tropical storms (Ardea 53: 79, 235-236).

Little Tern *Sterna albifrons*. S.E.C. reports four at Acajutla, Guatemala, on 6 April, 1964.

Crested Tern *Sterna bergii*. J.H.A. reports two 54 miles south of Perim Island in the Gulf of Aden on 3 July, 1964. It appears from Roger Bailey's report that this species may appear up to fifty miles from land in this region, where it occurs throughout the year; the more migratory Lesser Crested tern may stay closer inshore (Ibis 108:248).

Royal Tern *Thalasseus maximus*. J.O.B. reports four off West Africa at 21°N. 17°W. on 5 July, 1964, and S.E.C. two off Acajutla, Guatemala, on 6 April, 1964. H. W. Kale describes a colony off Georgia in Bird Banding 36:21-27; it was among terns found breeding off West Africa by R. de Naurois.

Common or Brown Noddy *Anous stolidus*. S.E.C. reports four at 16°N. 67½°W. on 18 June, 1964, and others at 7°N. 81°W. on 26 June. P.G.O.S. reports twenty at 4°S. 73°E. on 18 July, 1964. F. Haverschmidt recorded one off Surinam on 19 December, 1963, in Ardea 53: 236, and C. R. Mason and W. B. Robertson list three occurrences in New England after tropical storms during August and September in Auk 82:27.

Lesser or Black Noddy *Anous minutus* (incorporating the White-capped Noddy *A. tenuirostris*). W. B. Robertson and others record the first birds for the U.S.A. in the breeding season on the Tortugas, commenting on their lighter, more erratic flight compared to Common Noddies, in Auk 78:423-425; and R. G. Macdonald reports one at Spira Bay, New Zealand, on 10 January, 1965, in Notornis 12:240.

White Tern *Gygis alba*. J.B.M. reports one at 11°S. 167½°W. on 8 May, 1964, several possibles at 13½°S. 173°W. next day, and two possibles at 19½°S. 178°E. on 12 May, 1964.

AUKS: FAMILY *ALCIDAE*

We have the usual North Atlantic records off Western Europe and Canada. Among reports in the literature, J. H. Plumb describes the breeding biology of the Razorbill, *Alca torda*, in Brit. Birds 58: 449-456; the birds select nest site on their first visits to land in spring, and when the egg was lost five of thirteen pairs replaced it. The incubation period is 36 days, the hatching success 69%, the young fledge at 18⅔ days, with a success of 78%, making the total breeding success 53%. When given two chicks two or three of twelve pairs managed to rear them. J. Greenwood also describes the fledging of this species and the Common Guillemot *Uria aalge*, when the young birds leap into the sea, in Ibis 106:469-481, and he and S. Fogden describe Guillemots breeding in a cavity in Brit. Birds 58: 470 (comment by J. L. F. Parslow, Brit. Birds 59:120-121). J. M. Boyd reports a census of Guillemots and Kittiwakes on St. Kilda, where there are surprisingly few, in Brit. Birds 53:252-264, and E. Brun reports colonies of Brunnich's Guillemot in Norway in Sterna 6:229-250. A. N. Golvkin reviews the fish consumption by Guillemots and Kittiwakes in the Barents Sea in Zool. Zh. 42:408-416.

S. Myrberget reviews the systematics of Norwegian Puffins *Fratercula arctica* in Nytt Mag. Zool. 11: 74-84, R. H. Drent the breeding biology of Pigeon Guillemots, *Cepphus columba*, in Ardea 53: 99-160, and E. A. Munger the inland records of the Ancient Murrelet *Synthliborhamphus antiquus* in Wilson Bull, 777: 235-242; there are a number of records of this last Pacific species east to the upper St. Lawrence and Mississippi delta, two-thirds in late October or November, and mostly associated with weather disturbances on the Pacific coast, thought they can survive for some time on fresh water after wandering inland. The breeding behaviour and moult of Cassin's Auklet, *Ptychorhamphus aleuticus*, is discussed by A. C. Thoreson and R. B. Payne in Condor 66: 456-476 and 67: 220-228; incubation takes at least 37 days, fledging takes 45 days, 65% of hatched chicks fledge, and the total egg and chick loss is 73%. They suffer from much predation by gulls, like other small seabirds. The moult starts during the second half of the breeding season, breeders starting later, and the primaries are replaced progressively.

SHEATHBILLS: *CHIONIDIDAE*

The breeding behaviour in the South Orkneys is discussed by N. V. Jones in Brit. Ant. Survey Bull. 2:53-71. They return in October, and nest with the penguins, feeding the young on the krill which the penguins waste. They lay one to four eggs in December which hatch in 40 days, and the young fledge in 50-60 days, after which they all feed on the shore till they migrate.

RECENT LITERATURE

I surveyed work on birds throughout the oceans in a review in the Proceedings of the XIIIth International Ornithological Congress, Ithaca, 1962, pp. 831-854 (1963). General sections on different seabird groups and topics will also be found in the "New Dictionary of Birds" edited by Sir A. Landsborough Thomson (London, 1964). Accounts of individual seabirds will usually be found in the standard ornithological textbooks for most countries, of which at the present time vol. 1 of the "Handbook of North American Birds" (ed. R. S. Palmer, Yale and London, 1962) is most important in the north, and the "Oceanic Birds of South America" by R. C. Murphy (New York, 1936) in the south, though D. L. and V. Serventy and John Warham should shortly produce an important work on seabirds of Australia. There is no textbook for Antarctica, but K. H. Voous has recently contributed an important survey of the birds to "Biogeography and ecology in Antarctica" (Monographiae Biologica 15, ed. P. van Oye and J. van Miegheren, The Hague, 1965). References to older literature will be found here or in the "Aves" section of the Zoological Record, published annually by the Zoological Society of London (price £1; address, Regents Park, London N.W.1). It is more difficult to keep up with recent work, which is scattered in many places, and may only come to be quoted in the textbooks after a long delay, if at all. Therefore, in addition to attempting to summarise the more important information for each species since 1959 in the systematic list, it seems useful to end with a summary of more general work.

There have been well over thirty accounts of birds seen at sea. Three, by J. D. Gibson (Emu 60:11-19), A. O. Gross (Audubon Mag. 62:274, 277, 298, 310) and D. B. Peakall (Emu 60:197-202) cover voyages round a large part of the world. There are ten for the North Atlantic, by R. Berndt (Vogelwarte 21:293-294), M. Deramond (Alauda 30:286-289), K. Elgmork (Sterna 4:241-246), G. Laublinger (Orn. Mitt. Stuttgart 13:225-229), P. W. Post (Kingbird 14: 133-140), E.I.S. Rees (Canadian Field. Nat. 77:98-107), G. J. van Oordt (Ardea

47:41-48), D. Veilleumier (nos. Oiseaux 27:239-245), R. Vik (Sterna 5:15-23) and R. H. Wiley (Wilson Bull. 71:364-371). Most of these cover one or two voyages of the sort with which our members will be very familiar, though Posts' review of shearwater records from New England and Rees' notes from the St. Lawrence deserve comment.

There are fewer notes from the other northern oceans, though these are important because less is known there. In the Arctic L. O. Belopolskii has made an important study of the ecology of seabird colonies in the Barents Sea (trans. Israel Programme for Scientific Publications, Jerusalem, 1961), and A. N. Golovkin of the consumption of fish by guillemots and Kittiwakes in this area (Zool. Zh. 42: 408-416). There have also been a number of other important and inaccessible Russian papers on distribution in the Bering Sea and adjacent parts of the Pacific by V. P. Shuntov, E. N. Kurochkin and M. M. Sleptov (Zool. Zh. 40: 1058-1069, 42: 1223-1231, Ornitologia 2: 276-281). The seabirds of the region around Japan are reviewed in the last of a series of important papers by N. h. Kuroda (Pacific Science 14: 55-57), while A. Cheke reports a voyage from the south (Misc. Rep. Yamashina's Inst. Orn. Zool. 14: 55-67). D. C. Wilhoft supplements an account of voyages across the Pacific with a useful bibliography (Condor 63: 257-262), while K. D. Waldron continues work by Murphy and Ikehara on the association between bird flocks and fish shoals in the central Pacific, especially around the Marquesas (U.S. Dept. Int. Spec. Sci. Rep. Fisheries Nos. 154, 464).

The information on the northern Indian Ocean is placed on a new footing with the appearance of the first full report on R.R.S. Discovery results by Roger Bailey (Ibis 108: 224-264); R. Pocklington has also published some notes from the western Indian Ocean (Ibis 107: 385-386), and G. M. Storr a survey of distribution off West Australia (Emu 63: 297-303). R. Liversidge has reviewed the scanty information for South African seabirds (Ostrich Supp. 3: 47-67), and G. R. Edwards and R. W. Rand have reported on voyages to the south and east (Bokmakierie 13: 19-22, Ostrich 33: 48-51, 34: 121-28). Our member A. Y. Norris provides a series of useful notes on New Zealand seabirds in an account of a tour of duty in the region, and E. W. Dawson and R. B. Sibson also report on voyages in this area (Notornis 12: 80-105, 10: 7-80, 12:245-247). Parts of the voyages by Gibson and Peakall cited earlier were through the Southern Ocean, and K. Ozawa has also made observations here (J. Tokyo Univ. Fish. (Spec. Edn.) 1958: 325-328). C. R. Eklund described a number of proposals for research in the Antarctic during the International Geophysical Year (Bird Banding 30: 114-118); the results are apparently not generally available yet.

There have been too many accounts of mainland and island breeding places to cite any but the highlights here. They include important accounts of the great seabird colonies off west Africa by R. de Naurois, J. Dragesco and H. de Balsac quoting the former (Alauda 27: 144, 241-308, 28: 161-180, 29: 53-55, 81-98, 241-259, 30: 81-97, 32: 245-249) and a survey of numbers and fish-consumption in the colonies off south-west Africa by R. W. Rand (The biology of guano-producing seabirds; Invest Rep. Div. Fish. S.Afr. Nos. 41, 42, 43, 46, etc.). The work of the B.O.U. Centenerary Expedition on Ascension and St. Helena in the tropical Atlantic is described in vol. 103b of the Ibis, and by Bernard Stonehouse in his book "Wideawake Island" (London, 1960). Further north, among many publications the most notable are possibly an account

of the best seabird colony in the Faroes by A. Norrevang (Dansk Orn. Foren. Tidsskr. 54: 9-35) and of the birds of Spitsbergen by A. Loevenskiold (Avifauna Svalbardiensis, Norsk Polarinstitut, Oslo, 1964; see also R. de Naurois, Oiseau 33: 127-139, 189-211). In the south, J. Warham, K. A. Hindwood and D. L. Serventy describe the seabirds of the Australian barrier reef (Emu 61: 77-93, 62: 1-30, C.S.I.R.O. Div. Wildl. Res. Tech. Paper No. 3), K. Westerskov, A. M. Bailey and J. H. Sorensen describe the birds of Campbell Island off New Zealand (Wildl. Publ. New Zealand No. 61: Proc. Denver Mus. Nat. Hist. No. 10), M. C. Downes and others those of Heard Island south of Kerguelen (Rep. Austr. Nat. Ant. Res. Exp. No. 1B) and M. K. Swales the seabirds of Gough Island (Ibis 107: 17-42, 215-229).

There has been a variety of other work of interest. K. Schmidt Nielsen has worked on the excretion of salt by marine birds with a variety of authors; they lose it through the supraorbital gland opening into the nostrils, and die through salt depletion if not given salt water (e.g., Circulation 21: 955-966). A number of workers have also worked on the temperature regulation of tropical seabirds, including T. R. Howell and G. A. Bartholomew (Ibis 104: 98-105, Condor 63: 185-197, 64: 6-18) and M. D. F. Udvardy (Auk 80: 191-194). R. W. Storer has discussed the evolution and adaptations of diving birds (Proc. XIIth Int. Orn. Congr. Helsinki 1958: 694-707), and P. Paulian had discussed diving by the petrels (Oiseau 29: 128-130). G. Timmerman has produced a massive review of the feather-lice of the petrels, drawing conclusions from them concerning the evolution of the birds which mainly agree with other findings but conflict utterly with those for the gadfly petrels (Abh. Verh. Naturwiss. Vereins Hampurg No. 8, suppl.). In Britain there has been a great deal of observation of birds from the coast, described in reports from various Bird Observatories and now in the cyclostyled Seabird Bulletin; there have also been accounts of the birds feeding on fishing offal off N.W. Britain by D. Boddington and J. H. Boswall, and sprats along the east coast by P. J. Stead, while T. H. Pearson has speculated on their feeding biology in that region (Brit. Birds 52: 383, 53: 212-215, 57: 76-78, Ibis 105: 429).

In the south more attention has been devoted to another technique until recently neglected in the north, "beachcoming" for bodies. The most spectacular results come from New Zealand, where P. C. Bull and B. W. Boeson report on systematic beach patrols and B. Stonehouse has also described a wreck of young Sooty Shearwaters (Notornis 9: 185-199, 10: 265-277, 12: 46-48). In Australia A. R. Sefton has also described a wreck of Short-tailed Shearwaters and J. A. Devitt, N. F. Learmonth and M. P. Hines results of beach-counts, which among other things turned up a British-ringed Manx Shearwater (Emu 59: 220-221, 60: 103-107, 6262-63, 184-187, 64: 322-323, Brit. Birds 55: 86-87). In South Africa M. K. Rowan has also reported a mass mortality of Common Terns along the coast (Brit. Birds 55: 103-114), while R. Escalente reports results from beachcoming even in Uruguay (Condor 61: 158-159).

In the north beached birds only seem to attract attention where they have died of oil, as described by L. A. Giles and J. Livingstone for America (Trans. N. Amer. Wildl. Conf. 25: 297-303), various people, and especially D. S. Ranwell and D. Hewett for Poole Harbour, in a symposium for Britain in "Bird Notes" 31 (6), in the Annual Reports of the British Section of the International Council for Bird Preservation and in the Report of the International Conference on Oil Pollution of

the Sea, Copenhagen, 1959. Although oil pollution was very severe around Britain in the early spring of 1966, killing tens of thousands of birds, sufficient countries have now signed further amendments to the international convention limiting the discharge of oil at sea to bring them into force, and it is to be hoped that there will now be some improvement in the position. Our congratulations seem in order to the Advisory Committee on Oil pollution of the Sea and its indefatigable Hon. Secretary, Miss Phyllis Barclay-Smith, for their efforts in this direction, which are gradually having some effect, and perhaps members may care to support it (c/o Natural History Museum, Cromwell Road, London, S.W.7.).

OBSERVATIONS ON ISLANDS IN THE INDIAN OCEAN

By W. R. P. Bourne

During 1964 observations were made on many of the remoter islands in the Indian Ocean by personnel from H.M.S. Owen (Lt. J. W. Leech, Chief Petty Officer R. Worrell and Able Seaman R. W. Thomas) and H.M.S. Dampier (Lt. P. G. Odling-Smee and another amateur ornithologist). While the visits were short and none of the observers experienced, so little is known about these islands that the lists of birds reported often appear to add to existing information as summarised by G. E. Watson, R. L. Zusi and R. E. Storer in their "Preliminary Field-guide to the birds of the Indian Ocean" published by the Smithsonian Institution in 1963, so it seems desirable to place them on record (we have added the scientific names). Lt. Odling-Smee reports that on many of the smaller islands devoted to growing copra conditions appear to be deteriorating for birds; the native land birds are also likely to be suffering from competition from the growing number of introduced species, while the imminent establishment of bases on Diego Garcia and especially Aldabra seems likely to cause further disturbance of the native birds.

Gan, Addu Atoll, Maldives

H.M.S. Dampier called here briefly for fuel several times in July and August. The few notes made add little to the recent exhaustive survey by Major W. W. A. Phillips and others (J. Bombay Nat. Hist. Soc. 60: 448-584); they include six Frigate-birds *Fregata* sp. over the lagoon, numerous Little Green Herons *Butorides striatus*; two Grey Herons *Ardea cinerea*; Turnstones *Arenaria interpres*; several Curlews calling like English ones *Numenius arquata*; many Black-naped Terns *Sterna sumatrana*; fairly numerous Common Noddies *Anous stolidus*; and some White Terns *Gygis alba*.

Deigo Garcia, Chagos Group

This group has also recently been visited by P. Loustau-Lalanne (Ibis 104: 67-73) in November and December, 1960, who summarises the scanty previous information. Lt. Odling-Smee was landed on Diego Garcia for ten days while H.M.S. Dampier was surveying in the vicinity in late July and early August. Birds seen included some two dozen Frigate-birds circling above a flock of some 200 noddies in the distance over East Island, several white below and at least one with the characteristic patches of the Lesser Frigate-bird *Fregata ariel*, though he was unable to land to confirm breding. Introduced Cattle Egrets *Bubulcus ibis* are now numerous, and several Little Green Herons were seen. Francolin (presumably Grey Francolin *Francolinius pondicerianus*) and Moorhens *Gallinula* sp. were reported but not seen, but a Whimbrel *Numenius phaeopus* was seen and heard on Middle Island. Only two Sooty Terns *Sterna fuscata* were seen, but Black-naped Terns were numerous, especially on Middle Island, and it was thought that both Crested and Lesser Crested Terns *Thalasseus bergii* and *T. bengalensis* were present; the latter would be new. Common Noddies were by far the commonest bird, and had eggs and chicks of all sizes at the east end of West Island; on Middle Island they were nesting in palm trees. Two possible Lesser Noddies *Anous tenuirostris* were seen indistinctly. White Terns were numerous, especially on Middle Island. Madagascar Turtle Doves *Streptopelia picturata* were seen several times, and Mada-

gascar Fodies *Foudia madagascariensis* many times, with one male in breeding dress. Mynahs *Acridotheres tristis* are now by far the commonest land bird, though Loustau-Lalanne only reported them from Egmont Atoll.

It may be worth repeating that S./Lt. J. Branegan reported Greater Frigate--birds *Fregata minor* and Bridled Terns *Sterna anaethetus* and Mr. D. M. Neale Wedge-tailed and Audubon's Shearwater *Puffinus pacificus* and *P. Iherminieri* with three White-faced Storm-petrels *Pelagodroma marina* when H.M.S. Gambia was off Diego Garcia on 9 July, 1959 (Sea Swallow 12: 16); though there may have been confusion with Sooty Terns and Lesser Frigate birds in the first two cases. Loustau-Lalanne also omits to quote papers by G. C. Bourne and Howard Saunders on the birds of Diego Garcia in Proc. Zool. Soc. London 1886: 331-4 and 335-7.

Coetivy Island, Seychelles

H.M.S. Dampier paid a brief visit on 9 August. The birds seen included a few Lesser Frigate-birds, a number of Little Green Herons and Francolin or Madagascar Partridges (probably Chinese Francolin *Francolinus pintadeanus?),* Turnstones, numerous Sooty Terns, some Common Noddies, a number of White Terns, numerous Madagascar Fodies (many in breeding plumage), and many Mynahs.

des Noefs Island, Amirantes

H.M.S. Owen anchored on the west side on 11 March, and a party landed in the afternoon reported about a hundred pairs of Blue-faced Boobies *Sula dactylatra* with about seventy young and fifteen pairs of Brown Boobies *S. leucogaster* at the south-west end, at least thirty nests of Common Noddies with eggs along the west shore, thirty Lesser Frigate-birds on one side of the island, and Greater Frigate-birds on the other, and about twenty "sardine terns" picking up bits of fish in the booby colony. There were about sixty white egrets with pale bills, presumably Cattle Egrets, and numerous Turnstones.

des Roches Island, Amirantes

H.M.S. Dampier also anchored briefly on 10-11 August. Birds seen included a few Little Green Herons, two Grey Herons, about a dozen Lesser Frigate-birds, numerous Sooty Terns, a number of Common Noddies and White Terns, a few Black-naped Terns, numbers of Turnstones, three Whimbrel, two Crab Plovers *Dromas ardeola,* a few Francolin or Madagascar Partridges (perhaps also Chinese Francolin?) common Barred Ground-doves *Geopelia striata,* numerous Madagascar Fodies well into breeding plumage, and abundant Mynahs.

Menai Island, Cosmoledo group

H.M.S. Owen called here during 13-15 March. Bird life was abundant. Two Blue-faced Boobies and two Red-footed Boobies *Sula sula* were seen around the settlement, and a young Red-footed Booby also came aboard off Wizard Island. Egrets and herons were abundant, coming in two sizes and colours; about forty of them appeared to be "reef herons" with the colour phases about equal, with five "Great White Herons" which had the bottom of the feet orange, and one "Madagascar Heron." There were large numbers of Turnstones, about

twenty Crab Plovers, one White Tern carrying something in its bill, one pair of Pied Crows, *Corvus albus*, reported to be the first for many years, and many "Anjouan Sunbirds" *Nectarinia* sp.

Astove Island

H.M.S. Owen visited the island on 16 March, and the daylight hours were spent ashore. Three possible Crested Terns were seen, and a "White-faced Heron" feeding on the reef. Up to six Cattle Egrets were seen together around the settlement, and "Anjouan Sunbirds" were plentiful.

Assumption Island

H.M.S. Owen visited the island on 17 March, and twelve hours were spent ashore. The few birds seen included a Blue-faced Booby, three Black-naped Terns, one White Tern and about thirty small terns that might have been Little Terns *Sterna albifrons* offshore, a hundred Turnstones and forty Crab Plover, what may have been young Little Green Herons in the trees west of the Settlement, and about 25 Pied Crows.

Aldabra Atoll

H.M.S. Owen visited the atoll several times in March, and the following list of birds supplements the description and list made by Lt.-Cdr. R. O. Morris in January and February, 1962 (Sea Swallow 16: 68-76):—

Twenty White-tailed Tropic-birds *Phaethon lepturus;* thousands of "Cape Gannets" (presumably assorted boobies; they were seen feeding out to sea to the 2,000 fathom line ten miles away to the north in the middle of the day, and on one occasion a Brown Booby was distinguished); thousands of Frigate-birds of two sizes; hundreds of Grey Herons and Dimorphic Egrets *Egretta dimorpha* (about 40 per cent. in the dark phase); a few Little Green Herons; one shy white ibis with a dark bill (Sacred Ibis *Threskiornis aethiopica?*); one tame flightless rail "like a little Kiwi" seen twice on Polymnie Island (White-Throated Rail *Dryolimnas cuvieri?)* thousands of Turnstones and Crab Plovers; hundreds of curlews *Numenius* sp., Common Noddies and White Terns, thirty Black-naped Terns; hundreds of very shy Comoro Blue Pigeons *Alectroenas sganzini;* fifty Coucals *Centropus toulou;* a hundred Drongos *Dicrurus aldabranus;* hundreds of Pied Crows; Souimanga Sunbirds *Nectarinia souimanga* (several with nests, usually low down in Casuarina trees), Aldabra Fodies *Foudia aldabrana* and "Mynahs" *(Acridotheres tristis* would apparently be new; perhaps the Bulbul *Hypsipetes madagascariensis?).*

No flamingos were seen, and the fact that such birds as the ibis and rail now seem very rare suggests that the native avifauna is already reduced and is likely to suffer severely if a base is established on the island.

Farquhar Atoll

H.M.S. Dampier visited Farquhar Atoll on 13-14 August, and Lt. Cdling-Smee commented that it was one of the most interesting islands they had been to; it is also one of the least-known. Not only was it attractive in itself, it appeared particularly rich in birds. They were most abundant where there were a few trees and some surprisingly high

sand-dunes in the south ; some of the smaller islands in the north and west which could not be visited also looked interesting. Frigate birds were seen in the distance, and some 200 Blue-faced Boobies were found nesting at the south end, while one Red-footed Booby was seen at sea. Little Green Herons and Cattle Egrets were common, and one Grey Heron was seen. Turnstones were common, Whimbrel quite common, and there were a few Crab Plover. Very large numbers of Sooty Terns breed at the south end, White and Black-naped Terns are plentiful, and a few Crested Terns were seen. Barred Ground-doves were very common, Madagascar Fodies very common and in full breeding plumage, and Mynahs were common ; they appear to be a new arrival.

Agalega Islands

H.M.S. Dampier called on 7-8 August, and Lt. Odling-Smee spent a few hours ashore. He comments that this is one of the copra-producing islands where the birds appear reduced. They included two Little Green and one Grey Herons, several Common Noddies and White Terns and possibly also Black-naped Terns, numerous Turnstones, many Barred Ground-doves, numerous Madagascar Fodies just coming into breeding plumage, numerous Mynahs, and small birds with yellow undersides referred to as "African Canaries," presumably *Serinus* sp. Partridges, quail, and ibises were also said to be present. Most of the land-birds are apparently new records.

REPORTS OF LAND BIRDS AT SEA

By Captain G. S. Tuck, D.S.O., R.N.

During 1965, and apart from the reports quoted under the Ocean Weather Ship summary, members have forwarded 20 separate sea passage reports on land birds in addition to 20 detailed, examination reports of birds taken in the hand.

I wonder if I am right? but after studying so many hundreds, maybe thousands, of individual reports on sea and land birds, with their detailed remarks, often accompanied by sketches, I believe that the land birds give more pleasure, and indeed more of a challenge in the matter of their identity, to the observer than do the sea birds. Perhaps this is natural, for most land birds appear quite unexpectedly onboard in the rigging, on the forecastle and even in a cabin and can usually be observed at close quarters, sometimes spend lengthy visits, providing the added interest as to what food to provide, and are in such variety of species and plumage to satisfy and often defeat the most critical observer.

To tabulate, as has been done in the past, the date and position of every individual species sighted does not serve in many cases to throw new information as to their movements and as such is extremely space consuming.

Of course without full reports from all members available for study one might miss some valuable point, but in preparing a final summary much duplication can be avoided by a selective consideration of all reports from any given area. This I have attempted to do.

SUMMARY

(d followed by a capital letter equals direction of departure)

Eastern North Atlantic—East of 30°W and South of 30°N

29th April, 1964. 26°16′N, 17°10′W, 60 miles off the Spanish Sahara. Observer: Mr. M. J. Carter. s.s. 'Northern Star.' A marked migratory movement of passerines, swallows, swifts, warblers and Turtle Doves *Streptopelia turtur,* including 10 Sanderlings *Crocethia alba* passing northwards and eastwards, 102 birds counted. Wind NE 4–5.

Eastern North Atlantic—East of 30°W and North of 30°N.

3rd/4th November, 1964. 540 to 300 miles NE of Azores. Observer: Mr. D. H. Rayfield, s.s. 'Alinda.' A small migratory movement to the SW including 5 starlings *Sturnus vulgaris,* 1 Willow Warbler *Phylloscopus trochilis,* 1 Swallow *Hirundo rustica,* 2 House Martins *Delichon urbica* and one Fieldfare or Redwing species uncertain. Wind E'ly 6-7.

Land bird reports from Ocean Weather Ships in this area during 1964 and 1965 are included in the Ocean Weather Ship Summary.

Western North Atlantic—West of 30°W and North of 30°N.

12th August, 1965. 33°40′N, 44°50′W. Nearest land, Azores and Bermuda both about 1,000 miles distant. Extract from Met. Log of m.v. 'Essequibo,' Royal Mail Lines, Captain R. Phillips.

The bird is judged to have been a Snowy Egret *Egretta thula,* from the following very good description given by Captain Phillips:—

"A large white bird resembling a heron landed on the forecastle. It stands about 3 feet high. Plumage all white, the legs and beak black, the

feet yellow. The beak also has a yellow part underneath. Legs long and thin, beak long and pointed, neck long. It has a crest of long white plumes and more long plumes resembling a beard on the lower part of the neck. At rest and in flight the neck is held coiled against the body."

7th/8th October, 1965. Between 54N, 3°30'E and 54°N, 5°50'E about 150 miles NE of the Wash. Observer: Lieut.-Commander A. C. Currey, R.N. H.M.S. Eastbourne. After 60 hours of thick fog visibility improved at daylight. A very large number of birds seen around ship and casualty rate high. Many exhausted birds picked up by crew. Probably about 50 Meadow Pipits *Alauda pratensis*, about ship. A number of Goldcrests, Starlings and Song Thrushes seen and a Brambling and cock Chaffinch spent the night. Later 5 Goldcrests were given shelter in Lieut.-Commander Currey's cabin.

Mediterranean Sea

Observer: Lieut.-Commander M. B. Casement, R.N., H.M.S. "Shavington."

25th February, 1964. 36°50'N, 19°30'E in the Ionian Sea. About 50 Great Crested Grebes *Podiceps cristatus* and many flocks of ducks passing NE. At Athens three days later many Great Crested Grebes and Mallard were seen on sale in the market.

11th March, 1964. 4 miles to seaward of Taranto. 9 Bar-tailed Godwits *Limosa lapponica* passing NE.

25th August, 1964. Straits of Gibraltar. Strong movement of raptors, small eagles or buzzards, flying southwards in groups of 6 to 10 birds.

28th October, 1964. 15 miles North of Malta. Steady movement of Skylarks *Alauda arvensis* and Meadow Pipits *Anthus pratensis*, southwards. About 150 birds seen.

29th October, 1964. Between Sicily and Sardinia. Constant stream of passerines all day, estimated at 300 to 500 per hour passing SW. The greater proportion were Skylarks and Meadow Pipits.

8th to 27th October, 1965 and 6th to 7th November, 1965. Observer: Captain D. Stam. s.s. 'Tamara.' During two passages, northwards from Port Said to Venice including 6 days in Ravenna Roads, and Southwards in reverse, Captain Stam recorded a continuous but small arrival of passerines onboard. Nineteen different species were identified, but the chief arrivals were Robins *Erithacus rubecula*.

Gulf of Suez

15th April, 1965. 28°00'N, 33°32'E. Gulf of Suez. Observer: Third Officer P. A. Brown. M.V. Denbighshire (extract from meteorological log). Northward migration of White Storks *Ciconia ciconia* observed consisting of three main groups estimated at about 5,000 birds extending over 10 miles. Wind NW5.

Red Sea

For variety in land birds coming onboard a passage through the Red Sea is hard to beat. Two examples are given from reports received.

10th July, 1965. 19°24'N, 39°12'E. Observers: Captain J. H. B. Weston and all Officers s.s. "Hororata" (Extract from meteorological

log). During evening twilight a Peregrine Falcon *Falco peregrinus* landed on the bridge-wing dodger, and remained quite undisturbed by people close around. An excellent colour transparency was taken by 3rd Officer A. Allen. The falcon remained onboard all night and left next day with the ship at 16°12′N, 41°12′E.

22nd to 24th August, 1965. From 22°44′N, 36°49′E Southwards down the Red Sea. Observer: Mr. J. E. Worgan. H.M.T.S. 'Monarch.' Mr. Worgan remarks that the weather was intolerably hot with visibility less than one mile at times in heavy dust storms all the way from Port Sudan to the Gulf of Aden. The first arrival on 22nd August was a Red-footed Falcon *Falco vespertinus* closely followed by 3 Cliff Swallows *Perochelidon pyrrhonota* and 2 Hoopoes *Upupa epops*. The following day another Cliff Swallow flew into the wheelhouse and was examined at close quarters as it sat in the Captain's chair. A little later on in the vicinity of the Dahlak Archipelego a Bee Eater *Merops apiaster*, flew onboard and took "bed and breakfast." Later on 28th August while the ship was repairing cable in the Gulf of Aden in position 11°50′N, 43°59′E a Gyr Falcon *Falco rusticolus*, spent all day onboard, catching a small passing bird and devouring it on the Captain's Deck. Mr. Worgan took four excellent close up photographs.

Persian Gulf

29th August, 1964. 29 miles East of Muscat. Observer: 2nd Officer R. H. Hunt. s.s. Regent Liverpool. 30 Curlews *Numenius arquata*, observed passing westwards.

30th August, 1965. 29°30′N, 49°30′E. Northern end of Persian Gulf. Observer: Captain D. Stam. s.s. "Tamara." A great variety of birds identified onboard, all remaining until nightfall. These comprised: 5 Hoopoes *Upupa epops*, 1 Turtle Dove *Steptopelia turtur*, 4 Red-backed Shrikes *Lanius collurio*, 1 Woodchat Shrike *Lanius senator*, 1 Nightingale *Luscinea megarhynchos*, 2 Garden Warblers *Sylvia borin*, 1 Lesser Whitethroat *Sylvia curruca*, 2 Yellow Wagtails *Motacilla flava*, 1 Great Reed Warbler *Acrocephalus arundinaceus*, 1 Reed Warbler *A. scirpaceus*, 1 White-spotted Bluethroat *Cyanosylvia svecica*, 1 Wheatear *Oenanthe oenanthe*, 1 Icterine Warbler *Hippolais icterina*, 1 Spotted Crake *Porzana porzana* and 1 Little Crake *Porzana parva*.

North Pacific Ocean West

14th September, 1964. 12°56′N, 114°40′E. South China Sea. Observer: 2nd Officer M. J. Hunt. s.s. "Regent Liverpool." 3 Yellow Wagtails *Montacilla flava*, onboard.

19th September, 1964. 33°24′N, 137°42′E. South of Japan. 2 Swallows *Hirando rustica*, on board.

27th September, 1964. 22°32′N, 127°04′E. About 400 miles South of Okinawa. 1 Yellow Wagtail, 3 Swallows, 1 Egret sp. onboard.

7th October, 1965. 38°40′N, 143°05′E. 60 miles off Northeast coast of Honshu, Japan. Observer: 2nd Officer D. H. Mobberley. M.V. Lancashire. 1 Long-eared Owl *Asio otus*, 1 Rock Dove *Columba livia*, 1 Desert Wheatear *Oenanthe deserti*.

17th October, 1965. 30°18′N, 125°16′E. East China Sea. 4 Turtle Doves *Streptopelia turtur* dW. 18th October, 25°12′N, 120°06′E. Formosa Strait. 1 Sparrow Hawk Sp, 3 Turtle Doves dW, 1 Swallow dW. 21st October, 8°45′N, 107°52′E. 1 Peregrine Falcon *Falco peregrinus*.

perched on foremast rigging and attempted to capture swallows, 7 Swallows dSW, 1 Grey Wagtail *Motacilla cinerea* and 2 Swifts *Apus apus*.

North Pacific Ocean East

24th to 26th October, 1964. Coastal from Champerico on West coast of Guatamala to La Paz on southern tip of Lower California. Observer: S. E. Chapman. M.V. "Cienfuegos." Only 2 Mourning Doves *Zenaidura macroura*, and 1 Meadowlark *Sturnella magna*.

3rd to 7th November, 1964. 23°37′N, 108°18′W. Southern entrance to Gulf of California to Amapala, Honduras in 13°11′N, 89°31′W. 1 Short-eared Owl *Asio flammens*, 1 Mourning Dove, 1 Mocking Bird *Mimus poly glottos*, 1 American Kestrel *Falco sparverius*—all onboard.

5th November. 16°28′N, 99°35′W. 1 Dickcissel *Spiza americana*. 7th November. 13°11′N, 89°31′W. 1 Mourning Dove.

SEA AND LAND BIRD REPORTING FROM BRITISH OCEAN WEATHER SHIPS

Summarised by Captain G. S. Tuck, R.N.

Introduction

There are nine Ocean Weather Ship stations in the North Atlantic between 35°N and 66°N spread more or less evenly across the Atlantic. The most northerly, Station Mike (Norway, Netherlands), at 66°N, 2°E, lies roughly 150 miles north of the Shetlands and 250 miles west of Alesund, while stations India (U.K., Netherlands), at 59°N, 19°W, 330 miles south of Iceland, Juliett (U.K., France, Netherlands), at 52°30′N, 20°W, 480 miles south of India and 450 miles west of Ireland, and Kilo (France, U.K., Netherlands), at 45°N, 16°W, 480 miles south by east of Juliett and 400 miles west northwest of Cape Finisterre, are stepped one beneath the other on a line roughly south from Iceland. Further west another line of stations is stepped roughly north/south down mid Atlantic from Alfa (U.K., France, Netherlands and Norway), at 62°N, 33°W, in the Greenland Sea, through Charlie (U.S.A.), Delta (U.S.A.), and Echo (U.S.A.), at 35°N, 48°W, with one further Station Bravo (U.S.A.), between the southern tip of Greenland and Labrador.

In the 1950's British ornithologists collected some sporadic data on the observations of birds from British Ocean Weather Ships. Through the keen co-operation of Mr. Norman Lynagh and Mr. Euan D. Macdonald, members of R.N.B.W.S., and on the meteorological staffs of Ocean Weather Ships "Weather Adviser" and "Weather Monitor," and Mr. J. Fowler, the possibility of building up a more permanent organisation has arisen. Both have been recording day to day census records on station and passage reports to and from station in great detail on R.N.B.W.S. forms, and contact has also been established with Mr. E. Brun, Norwegian marine biologist at Tromsö Museum, with a view to a useful exchange of information on sea and land bird movements in far northern sea areas.

Presentation of Observations

The number of observations of each species has been shown in tabular form under each station from the daily census sheets covering each period "on station." The table for each station is recorded in sequence of months whether records are for 1964 or 1965. This may give a more useful indication of the monthly pattern of individual species

at each station. It must be borne in mind that certain sea birds tend to "stick around ships," for example Fulmars and Kittiwakes, and it is certain that where birds of the same species are plentiful each day, individuals will have been counted more than once.

Only birds positively identified have been included, and in the case of Terns spp, where in almost all cases positive identification proved impossible, and hence none are included, the pattern of their movements is unrealistic. In the case of other species practically no observations have been omitted due to uncertain identity.

Symbols Used

Numerals = number of individual birds.
† = large numbers daily. 50 plus.
* = very large numbers daily. 50–100 plus.
a = adult plumage.
i = immature plumage.
b = blue phase (Fulmers).

Some First Impressions from Observations

Great Shearwater. First appears at 62°N, 33°W, in ones or twos in late June, increasing at 59°N, 19°W, further east in August and reaches a crescendo at 52°30'N, 20°W, further south in September.

Cory's Shearwater. None observed north of 46°N, 16°W, and recorded here in mid July.

Manx Shearwater. Numbers seen 450 miles west of Ireland in April, reappearing 450 miles NW of Ireland again in August.

Storm-Petrels spp. A marked absence of reports of storm-petrels with the sudden appearance of Wilson's Storm Petrels 400 miles WNW of Cape Finisterre in late July, and of British Storm Petrels 450 miles west of Ireland in late September.

Fulmer. Large numbers at all stations throughout the year with the exception of Station Kilo.

Great Skua. Increase in numbers 450 miles west of Iceland in April/May, no doubt moving northwards, and again further north 330 miles south of Iceland in August, and further south again in September.

Pomarine Skua. Increasing in numbers in the Greenland Sea and 450 miles west of Ireland in mid May.

Long-tailed Skua. Increasing in numbers 450 miles west of Iceland in mid May, and a few in the Greenland Sea area further north in early June.

Kittiwake. Adult Kittiwakes generally absent from all stations from May to August, becoming only slightly less numerous than Fulmers at sea in the winter months.

These early reports from a few fixed positions in the North Atlantic cannot claim to provide definite indications of migratory routes or seasonal distributions. It may be of interest to note that from a general analysis of R.N.B.W.S. North Atlantic passage reports the Great Skua is seen to spread evenly right across the route, while the Artic, Pomarine and Long-tailed Skuas are more likely to be seen between 30° and 50° west, with a bias in the case of the Long-tailed Skua towards the western limit.

LAND BIRDS IN THE OPEN OCEAN

SYMBOLS USED

Letter d preceded by numeral=number of birds died.

Letters such as NW or ENE = direction of departure.

Land birds and particularly the small passerines which brave the hazards of the great ocean passages which must lead them to and from the land masses surrounding the Norwegian Sea and landfalls in Canada, Newfoundland or the east coast of North America in the west, or maybe in Ireland, Spain or the Atlantic Islands in the east, must suffer untold casualties en route. How many have been blown right off their predetermined routes it is impossible to say. That they occur in mid ocean, and that almost invariably they are reported to be in very exhausted conditions when observed onboard Ocean Weather Ships speaks for itself. Of the few that are observed in these inhospitable waters how many more must pass where no friendly forecastle of a ship offers sanctuary and food.

It may come however as a surprise to the manufacturers of "Swoop" that our observers in British weather ships far out in the Greenland Sea have recorded that Lapland Buntings and Snow Buntings all fed happily on "Swoop".

During the passage to and from Ocean Station Alfa (62°00′N, 33°00′W) between 15th May and 10th June, 1965, and between 59°00′N, 20°00′W, and the station, the following birds were identified: 3 Artic Redpolls (1d), 1 Common Sandpiper, 3 Dunlins (1d), 4 Lapland Buntings, 2 Meadow Pipits (1d), 1 Merlin, 1 Red-breasted Merganser (SSW), 10 Wheatears (3d), 3 Whimbrel (N to NW) and 1 White Wagtail.

In 1964, during the same period, 7th May to 6th June, out at Station Juliett (52°30′N, 20°00′W) the following birds were identified: 2 Dunlin, 1 House Martin, 12 Swallows and 2 Whimbrel. Records from the same Station from 17th September to 9th October show only a few unidentified pipits, 1 Barbary Dove which was kept onboard, ate oatmeal, and was subsequently identified at a Natural History Museum on return to harbour, 1 Brambling revived onboard and set free at Greenock on return to harbour, 1 Common Sandpiper and 1 Merlin which ate at least two storm-petrels and a small bird during a two day visit.

Further south at Ocean Station Kilo (46°00′N, 16°00′W) between July 17th and August 5th, 1965, it was perhaps not surprising that no land birds were reported during this period of the year.

Ocean Station India (59°00′N, 19°00′W) about 330 miles south of Iceland was under observation for three periods in 1965. Between January 1st and 22nd the only land birds observed were 2 Great Grey or Lapland Owls, one on each of two consecutive days. Between February 17th and March 10th no land birds were identified, and later during August only 1 Turnstone and a few small unidentified waders.

In 1964 however, and only slightly later in the season (August 16th to September 6th), there was ample evidence of an Autumn southward migration. We had reports of 4 Dunlin (1d), 24 Grey Wagtails, 1 Goldcrest, 1 Jack Snipe, 4 Meadow Pipits (1d), 2 Pectoral Sandpipers (1d), 51 Swallows, 21 Temmink's Stints (one on each consecutive day), 21 Turnstones (1d), 4 Wheatears and 1 Whimbrel.

During the last period on this Station (November 13th to December 10th), 1 Purple Sandpiper, 1 Fieldfare and 23 Redwings (one on each consecutive day) were identified from the ship, evidence of possibly a considerable southward passage of Redwings.

Away to the north and west at Station Alpha (62°30′N, 33°00′W) between November 2nd and 24th, 1965, the last observations to be included in this report were being made by Messrs. Lynagh, Macdonald and Fowler from Ocean Weather Ship 'Weather Adviser'. Only a small variety of birds included 1 Female Eider Duck, 1 Goose sp (NNW), 1 Long-tailed Duck (SW), 5 Oystercatchers (SE), 1 Purple Sandpiper (N), 4 Starlings and 1 Redwing.

TABLE A

DISTRIBUTION OF GREAT SKUA RECORDS

	Long.: 50W.	40W.	30W.	20W.	10W.	Total	No. of voyages
Jan.		1	1	2 (1)	4 (4)	1	9 (5)	7
Feb.		1 (1)	5 (2)	2	3 (1)	1	12 (4)	8
Mar.	1	6	7 (2)	11 (4)	7 (2)	2	34 (8)	12
Apr.		1 (1)	3	2	1 (1)	2 (1)	9 (3)	13
May						1	1	18
June			1			2	3	16
July					1		1	16
Aug.	1		3 (1)	2	2	1 (1)	9 (2)	14
Sept.	1 (1)	2	1	3 (1)	3 (1)	4 (2)	14 (5)	11
Oct.		1		2 (1)	3 (1)		6 (2)	10
Nov.					2 (1)		2 (1)	11
Dec.								12
Total	3 (1)	12 (2)	21 (5)	24 (7)	26 (11)	14 (4)	100 (30)	

Figures not enclosed in brackets—No. of observations and not number of birds observed.

Figures in brackets—No. of occasions when 2 or more birds have been seen together.

TABLE B

DISTRIBUTION OF RECORDS OF POMARINE, LONG-TAILED AND ARCTIC SKUAS

x—not identified for species (may include examples of all four)

		Long.: 50W.	40W.	30W.	20W.	10W.	Total
Apr.	P		3	7	3	1	14
	LT			3			3
	A			1			1
	X	1	1	4			6
May	P	2	4	2	5		13
	LT		6	5	1		x12
	A	1			1		2
	X	1		1	1	1	4
June	P						—
	LT						—
	A						—
	X	1				1	2
July	P	1					1
	LT						—
	A						—
	X						—
Aug.	P	3					3
	LT	2		2			4
	A	1					1
	X	4	3		2	1	10

DISTRIBUTION OF RECORDS OF POMARINE, LONG-TAILED AND ARTIC SKUAS

x—not identified for species (may include examples of all four)

		Long.: 50W.	40W.	30W.	20W.	10W.	Total
Sept.	P						—
	LT						—
	A			1		1	2
	X	1		1	2		4
Oct.	P		1		2		3
	LT						—
	A						—
	X	1			1		2
Nov.	P		1				1
	LT						—
	A						—
	X						—
Dec.	P			1			1
	LT						—
	A						—
	X						—
Total	P	6	9	10	10	1	36
	LT	2	6	10	1		19
	A	2		2	1		6
	X	9	4	6	6	2	28

OBSERVATIONS OF SEA BIRDS

	OCEAN STATION ALPHA 62°30′N, 33°00′W 300 miles WxS Iceland					OCEAN STATION JULIETT 52°30′N, 20°00′W 360 miles WxS Ireland					OCEAN STATION KILO 46°00′N, 16°00′W 350 miles WNW Cape Finis Terre	OCEAN STATION INDIA 59°00′N, 19°00′W 250 miles South Iceland				
	1965 May 17-31	June 1-9	1964 June 25-30	July 1-16	1965 Nov. 2-24	1965 April 2-25	May 10-31	1964 June 1-4	Sept. 17-30	1965 Oct. 1-9	1965 July 17-Aug 5	1965 Jan. 1-22	1965 Feb. 17-Mar. 10	1965 Aug. 3-26	1964 Aug. 15-Sep. 6	1964 Nov. 16-Dec 6
Great Shearwater	—	—	2	3	—	—	1	4	203	25	2	—	—	15	1	—
Corys Shearwater	—	—	—	—	—	—	—	—	—	—	40	—	—	—	—	—
Sooty Shearwater	—	—	1	2	—	—	—	2	1	1	—	—	—	20	7	—
Manx Shearwater	—	—	—	2	—	38†	1	4	—	—	—	—	—	14	4	—
Wilson Storm Petrel	—	—	—	—	—	—	—	—	—	—	132	—	—	—	—	—
Leach's Storm Petrel	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	—
British Storm Petrel	—	—	—	—	—	—	—	—	†	†	—	—	—	—	—	—
Fulmar Petrel	*	*	*	*	*(1/10b)	†	†	†	†	†	2	*	*(b)	*	*	*(b)
Gannet	10	8(i)	2	5	—	3	31	35	6(i)	1(i)	1(i)	4	5	26(i)	6(a-i)	—
Cormorant	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red-Necked Phal	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grey Phalarope	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Great Skua	7	1	2	2	—	36	17	6	20	6	2	—	12	30	28	—
Pom. Skua	28	10	—	—	—	6	39	3	4	—	—	—	—	2	5	—
Arctic Skua	2	—	2	2	—	1	—	6	9	2	—	—	—	9	9	—
Long-Tailed Skua	—	10	—	—	—	—	38	3	—	—	—	—	—	1	4	—
G.B.B. Gull	3	—	—	—	2	—	—	—	2	—	—	43(i)	15(6i)	—	4	11(i)
L.B.B. Gull	27	16(3i)	4	5	1	3	44	23	—	—	—	7(i)	1(i)	5	41(a-i)	1
Herring Gull	—	—	—	—	5	1	4	—	1	—	3(i)	—	—	—	17(a-i)	7
Glaucous Gull	—	—	1	—	1	—	—	—	—	—	—	—	1	—	1	2(i)
Iceland Gull	1	—	1	—	24(a)	—	—	—	—	—	—	9(a-i)	2	—	12(i)	3(i)
Kittiwake	84(a-i)	66(39i)	1	13	230(a) (at 10 per day)	†(a-i)	†	17	47	23	—	†	*(i)	†(a)	72(a-i)	†
Common Gull	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Black-Headed Gull	—	—	—	—	3(i)	—	—	—	2	1	—	—	—	5(i)	—	—
Little Gull	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sabines Gull	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—
Common Tern	4	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—
Arctic Tern	11	—	—	—	—	—	—	—	—	—	—	—	—	—	13	—
Roseate Tern	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—
Little Tern	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Little Auk	5	1	—	—	5	4	—	—	—	—	—	—	—	—	—	—
Razorbill	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Common Guillemot	13	12	3	2	—	—	1	2	—	—	—	—	—	—	—	—
Brun Guillemot	1	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puffin	12	3	—	3	—	—	—	—	—	—	—	—	—	—	—	3

OPERATION 'NAVADO'—FIRST PRELIMINARY BIRD REPORT

Summarised by CAPTAIN G. S. TUCK, D.S.O., R.N.

'Navado' consists of a combined oceanographic survey across the North Atlantic carried out by H.M.S. Vidal and H. Neth. M.S. Snellius.

Throughout this operation both ships are undertaking regular periods of birdwatching, compiling not only R.N.B.W.S. bird reports but also notes on marine biological conditions. Very few birds can have been overlooked. In 'Vidal' a lookout was kept from the bridge throughout the day, all birds sighted being reported to Captain Ritchie. In addition special census periods of observation were carried out from 0730–0830 hrs. and from 1530–1630 hrs. Captain Ritchie assisted in the identification of each bird sighted. If any birds came near the ship the official photographer, Naval Airman K. F. Rusby took photographs. A similar high standard of observation was maintained in 'Snellius'. R.N.B.W.S. is most grateful both to Captain G. S. Ritchie, D.S.C., R.N., commanding 'Vidal', and to Messrs. E. Nieboer and Otto in 'Snellius' and the others taking part for their trouble.

The first preliminary summary is confined to the pattern of seabirds observed and, at this stage, does not attempt a detailed analysis of links between sea bird distribution and marine biological conditions. It will be well to await further information over wider areas of the North Atlantic for this.

The summary covers trans-Atlantic crossings from December, 1964 to April, 1965. 'Snellius' has also forwarded records of her passage from Dan Helder to Las Palmas (Palmas 1 and 2, November/December, 1964) and from San Juan to Willemstad, Curacoa (Echo 5, December, 1964) and from there to Nassau (Echo 6 and 7, January, 1965). 'Vidal' has also forwarded records for line Delta along latitude 19°N in July, 1965. The details of these passages have not been included since they relate either to areas outside the trans-Atlantic belts or to a period later than the Spring.

Observations have occurred throughout the course of a day's steaming, but in the summary one mean position only is given around which sightings took place. Unless otherwise stated the species have been quoted as positive identifications, but human observations are rarely infallible.

OBSERVATIONS DURING WINTER AND SPRING TRANS-ATLANTIC CROSSINGS BETWEEN 10°N AND 34°N.

4th December, 1964. Snellius at 22°N. Snellius' line Echo started from Las Palmas, Canary Islands, towards San Juan on 3rd December. Lesser Black-backed Gulls followed the ship southwards towards 22°N. 4th December at 23°33′N, 16°34′W, hundreds of phalaropes seen migrating southwest; 10 Northern Gannets of which 6 immatures; 5 Blue-faced Boobies of which 4 immatures; 6 Great Skuas; 5 Pomarine Skuas in light phase; 2 Leach's Storm-Petrels; 1 White-faced Storm Petrel and 3 uncertain, together with numerous Lesser Black-backed Gulls and 6 Northern Black-headed Gulls. 5th December at 22°N, 20°34′W, no birds. 'Snellius' then steered west along latitude 22°N. 6th December at 23°50′W, 3 Manx Shearwaters; 7 Leach's Storm-Petrels; 1 White-tailed Tropic Bird. 7th December at 28°35′W, 3 Manx Shearwaters; 1 Soft-plumaged Petrel; 1 Leach's Storm-Petrel. 8th December at 31°W, 8 Great Shearwaters; 4 Leach's Storm-Petrels. 9th December at 37°37′W, no birds.

10th December at 38°30′W, 2 Leach's Storm-Petrels. 11th December at 43°W, no birds. 12th December at 46°W, 1 Tropic Bird species uncertain; 1 Leach's Storm-Petrel. 13th December at 50°W, no birds. 14th December at 52°34′W, 1 Great Black-backed Gull. 15th December and 16th December, 56°–59°W, no birds. 17th December at 65°W, 2 Red-billed Tropic Birds, 1 Magnificent Frigate Bird. 18th December at 69°W, no birds. 'Snellius' then entered the Caribbean Sea.

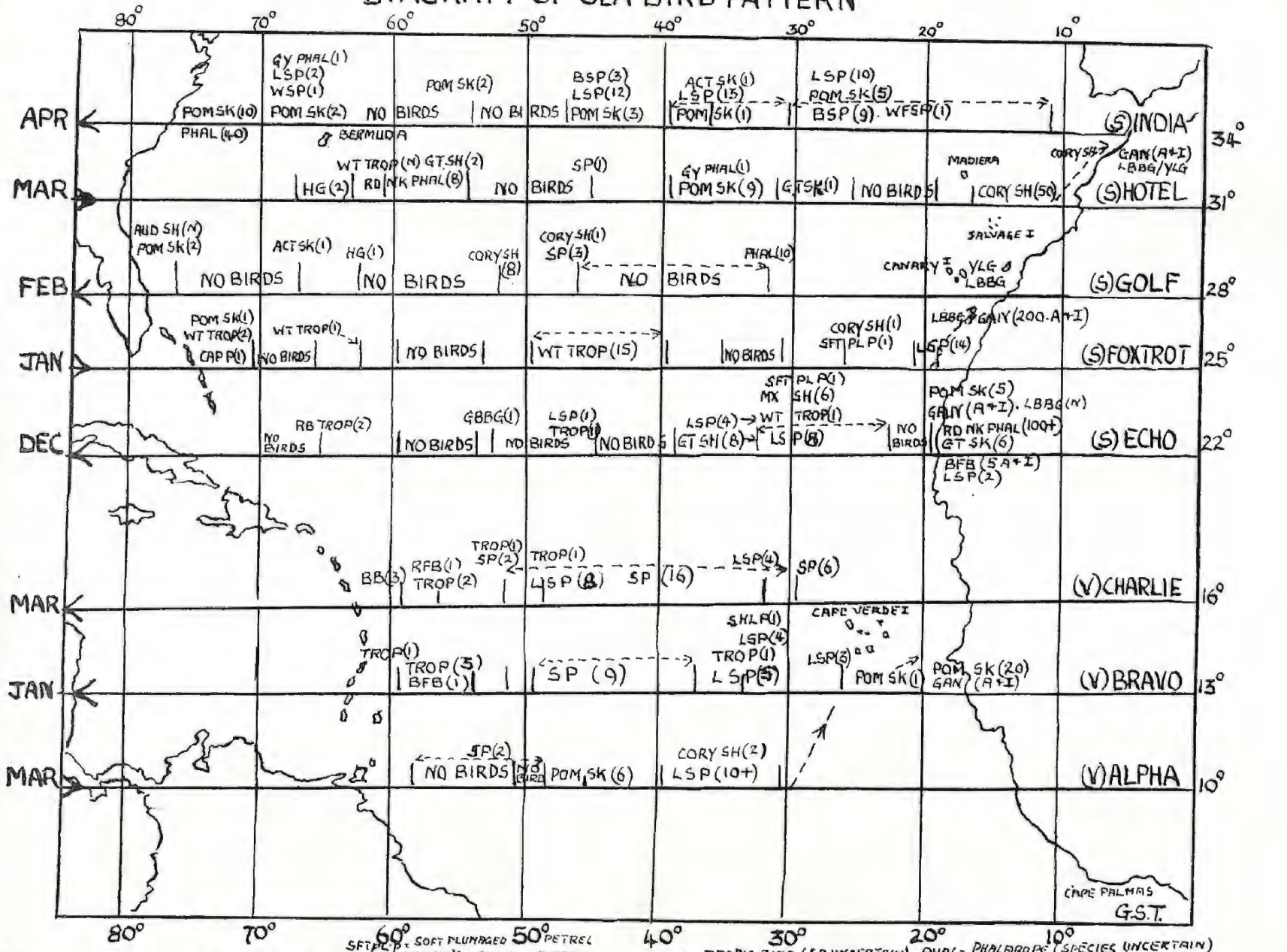
16th–27th January, 1965. Vidal at 13°N. Vidal's line Bravo crossed from Gambia to Barbados west along latitude 13°N. On leaving Gambia on 16th January about 12 adult and 60 immature Northern Gannets and 20 Pomarine Skuas in both light and dark phases were observed. At times the Skuas were mobbing the Gannets. 17th January at 20°W, 1 Pomarine Skua. 18th January at 26°W, 3 Leach's Storm-Petrels. 19th January at 30°W, 1 Petrel, resembling Schlegels; 4 Leach's Storm-Petrels; 1 Tropic Bird, species uncertain. 20th January at 33°30′W, 5 Storm-Petrels of which 2 were almost certainly Leach's. Thereafter between 21st and 25th January, 36°30′W to 49°30′W the central belt of the Atlantic was almost devoid of birds save for 1 or 2 storm-petrels, species uncertain, sighted each day. 26th January at 54°W, 1 Blue-faced Booby; 3 Tropic Birds, species uncertain. On 27th January, nearing Barbados, at 57°41′W, 1 Tropic Bird, species uncertain.

16th January—3rd February, 1965. Snellius at 25°N. Snellius' line Foxtrot crossed from Nassau, Bahamas, to Tererilfe in the vicinity of latitude 25°N. Leaving Nassau on 15th January in 77°W, about 10 Laughing Gulls were recorded and 19 Shearwaters which, from the description were most probably Audubon's Shearwaters. 16th January at 73°W, 1 Capped Petrel; 2 White-tailed Tropic Birds; 1 Pomarine Skua. On 17th and 18th January between 70°25′W and 65°W, no birds. 19th January, a short leg back at 63°20′W, 1 White-tailed Tropic Bird; 1 Booby, species uncertain. From 20th to 22nd January between 60°W and 52°W, no birds reported. 23rd January at 49°30′W, 2 White-tailed Tropic Birds. 24th January at 47°W, 3 White-tailed Tropic Birds. 25th January at 42°30′W, 4 White-tailed Tropic Birds. 26th January at 39°30′W, 6 White-tailed Tropic Birds. From 27th to 28th January inclusive, between 36°W and 30°W, no birds. 29th January at 26°W, 1 Soft-plumaged Petrel; 1 Cory's Shearwater. 30th January at 21°W, 1 Leach's Storm-Petrel; 1 (probable) Little Dusky Shearwater. 31st January at 19°W, 13 Leach's Storm-Petrels. On 1st February Snellius was heading northwards to Teneriffe, at approximately 26°N, 15°W, observed some 200 Northern Gannets of which 60% were immatures; 2 Blue-faced Boobies and a number of Lesser Black-backed Gulls.

15th Feb—5th March, 1965. Snellius at 28°N. Snellius' line Golf crossed from Las Palmas, Canary Islands, towards Charleston, South Carolina, along latitude 28°N. On 15/16th February, in the Canary Islands, Lesser Black-backed and/or Yellow-legged Gulls were recorded, and no further effective observations until 20th February. 20th February at 32°30′W, 10 phalaropes, species uncertain, settling and flying about weed patches. Between 20th and 24th February, 32°W to 46°30′W no birds. 24th February at 46°W, 1 Corys Shearwater; 3 storm-petrels, species uncertain. 25th February at 49°W, no birds. 26th February at 52°30′W, 8 Corys Shearwaters flying N. 27th February at 57°30′W, no birds. 28th February at 62°30′, 1 Herring Gull following ship. 1st

"NAVADO" – NORTH ATLANTIC CROSSINGS – WINTER/SPRING, 1964/65.

DIAGRAM OF SEA BIRD PATTERN



KEY TO SPECIES =

GT SH = GREAT SHEARWATER
CORY SH = CORY " "
AUD SH = AUDUBON'S " "
MX SH = MANX " "

SFT PL P = SOFT PLUMAGED PETREL
LSP = LEACH'S STORM PETREL
WSP = WILSONS " "
BSP = BRITISH " "
SP = STORM PETRELS (SP UNCERTAIN)
WFSP = WHITE FACED STORM PETREL
CAP P = CAPPED PETREL

TROP = TROPIC BIRD (SP UNCERTAIN)
RB TROP = RED-BILLED " "
WT TROP = WHITE-TAILED TROPIC BIRD
POM SK = POMARINE SKUA
GT SK = GREAT SKUA
ACT SK = ARCTIC SKUA

PHAL = PHALAROPE (SPECIES UNCERTAIN)
RD NK PHAL = RED NECKED PHALAROPE
GANN = NORTHERN GANNET
BFB = BLUE-FACED BOOBY. BR = BROWN BOOBY
RFB = RED-FOOTED " "
HG = HERRING GULL
LBBG = LESSER BLACK-BACKED GULL
YLG = YELLOW-LEGGED GULL

March at 66°W, 1 Arctic Skua, dark phase, flying NW. Thereafter to 73°W on 4th March, no birds. 4th March at 76°W, 2 Audubons Shearwaters; 1 Pomarine Skua, light phase. 5th March at 25°N, 76°W, several Audubon's Shearwaters and 1 Pomarine Skua, light phase.

6th—17th March, 1965. Vidal at 10°N. 'Vidals'' line Alpha crossed from Trinidad towards the Cape Verde Is along latitude 10°N finally swinging northwards on 15th March. Leaving Trinidad on 6th March one Shearwater, possibly Audubon's, was recorded. March 7th at 57°W no birds. March 8th at 54°30'W, 2 Storm-petrels, species uncertain. March 9th and 10th between 52°W and 46°W no birds. March 11th at 44°40'W, 6 Pomarine Skuas in both light and dark phases. These were catching flying fish in the air, but after 10 minutes disappeared to the northward. March 12th at 40°W, 1 Cory's Shearwater; 2 storm-petrels, species uncertain. March 13th at 37°W, 1 Cory's Shearwater; 3 Leach's Storm-petrels. March 14th at 34°45'N, 20 Storm-petrels feeding over an oil slick one of which came aboard and was identified as Leach's. Probably the others were the same. On 15th March Vidal swung northwards seeing no birds until 17th March at 16°N, 23°40'W, when 2 small all dark Petrels, probably Bulwer's and 20 Storm-petrels, species uncertain, were recorded.

21st-30th March, 1965. Vidal at 16°N. Vidal's line Charlie crossed from the Cape Verde Islands towards Guadaloupe along latitude 16°N. 21st March at 29°15'W, 6 Storm-petrels, species uncertain. 22nd March at 32°W, 4 Storm-petrels, almost certainly Leach's. 23rd March at 37°W, 2 Storm-petrels seen briefly. 24th March at 38°20'W, 8 Leach's Storm-petrels. 25th March at 41°40'W, 3 Storm-petrels, species uncertain. 26th March at 47°W, no birds. 27th March at 49°30'W, 1 Leach's Storm-petrel; 2 Storm-petrels, species uncertain; 1 Tropic Bird, species uncertain. 28th March at 53°W, 2 Storm-petrels, species uncertain; 1 Tropic Bird, species uncertain. 29th March at 56°40'W, 1 Red-footed Booby (nearest land, Marie Galante, 260 miles). 30th March at 59°20'W, 3 Brown Boobies; at 60°10'W, 2 probable Wilson's Storm-petrels.

13th March—4th April, 1965. Snellius at 31°N. Snellius' line Hotel crossed from Charlestown, South Carolina towards Casablanca along latitude 31°N, with a brief divergence to Bermuda. In Charlestown harbour, 8th-12th March, Double-crested Cormorants and Ring-billed Gulls were numerous on the river and mud flats, Herring Gulls and Bonaparte's Gulls common on the river where 2 Brown Pelicans were seen. 16th March at 31°N, 67°W, 2 Herring Gulls. Snellius arrived Bermuda on 18th March and recorded several White-tailed Tropic Birds and Herring Gulls, and 1 Great Black-backed Gull in Hamilton Harbour. 19th March at 52°30'N, 65°W, some White-tailed Tropic Birds. 20th March at 61°30'W, 8 Red-necked Pelaropes on surface amongst Sargasso weed. 22nd March at 55°W, 2 Shearwaters, almost certainly Great Shearwaters from the description. 23rd March at 51°W, no birds. 24th March at 46°W, 1 Storm-petrel, species uncertain. 25th March at 45°W, calls of Phalaropes around ship at 0500 hours. 26th March at 37°30'W, 1 Pomarine Skua, dark phase; 1 Grey Phalarope. 27th March at 34°30'W, 8 Pomarine Skuas. 28th March at 28°W, 1 Great Skua. 29/30th March at 24°W, and 31st March at 21°W, no certain observations. 1st April at 15°30'W, about 50 Cory's Shearwaters. 2nd April at 12°W, no birds. Snellius then steered northeastwards towards Casablanca, and on 3rd

April close off Casablanca recorded Northern Gannets in adult and immature plumage, Lesser Black-backed and Yellow-legged Gulls, 1 Cory's Shearwater and 4 Common Scoters.

8th-25th April, 1965. Snellius at 34°N. Snellius' line India crossed from Casablanca towards Norfolk, Virginia, along latitude 34°N. On 8th April at Casablanca Snellius recorded 370 Lesser Black-backed Gulls of which 300 were immatures, 35 Northern Black-headed Gulls of which 19 were immatures, and 4 Yellow-legged Gulls. 9th April at 11°W, 1 Storm-petrel and 1 Shearwater unidentified. 10th April at 13°30′W, 1 Booby, species uncertain; 1 British Storm-petrel. 11th April at 18°30W′, 4 British Storm-petrels; 1 Leach's Storm-petrel, 1 White-faced Storm-petrel, 1 Pomarine Skua, light phase flying N. 12th April at 20°30′W, 1 British Storm-petrel; 1 Pomarine Skua. 13th April at 26°W, 2 British Storm-petrels; 6 Leach's Storm-petrels; 2 Pomarine Skuas flying N. 14th April at 30°W, 1 British Storm-petrel; 3 Leach's Storm-petrels; 1 Pomarine Skua. 15th April at 34°W, 13 Leach's Storm-petrels; 1 Pomarine Skua; 1 Arctic Skua. 16th April at 39°W, 2 British Storm-petrels; 4 Leach's Storm-petrels. 17th April at 43°W, 7 Leach's Storm-petrels; 3 Pomarine Skuas flying NNE. 18th April at 45°30′W, 1 British Storm-petrel; 1 Leach's Storm-petrel. 19th April at 50°W, No Birds. 20th April at 55°30′W, 2 Pomarine Skuas. 21st April at 59°W, no birds. 22nd April at 64°W, 1 Leach's Storm-petrel. 23rd April at 67°W, 1 Wilson's Storm-petrel; 1 Leach's Storm-petrel; 2 Pomarine Skuas, light phase, flying N; 1 Grey Phalarope. 24th April at 72°W, 2 Pomarine Skuas. 25th April at 77°W, 8 Pomarine Skuas flying NE; 40 Phalaropes, species uncertain; 30 Sandwich Terns; 4 Black Terns and 4 Little Terns.

[*Comment*. These direct crossings of the Atlantic along latitude parallels are well off the beaten track of normal shipping routes and provide the first systematic records since those by Jesperson in the 'Dana' in the 1920s (Ornithological observations in the North Atlantic Ocean. 'Dana' Oceanogr: Reps No. 7; 36 p.p.) Apart from the area of upwelling water caused by the combination of the Canaries Current and the offshore drift off the bulge of northwest Africa, and similar upwelling off the Lesser Antilles, where sea birds congregate, the crossings span the sub-tropical warm surface waters of the North Atlantic devoid of surface feed. It is somewhat surprising however that a much greater variety of sea birds was not recorded in the areas between 15°N and 28°N east of 20°W, an area in which so many different observations by Captain D. Stam appear in previous 'Sea Swallows'.

Over the warm surface water of the open ocean the observers were no doubt disappointed, but not unexpectedly, at the lack of resident seabirds. The pattern is one of but a few Storm-petrels daily and the roving Tropic Bird far out at sea, with Squid appearing regularly, flying fish daily and great patches of floating seaweed in the more western areas in the biological records. As March gives way to April Pomarine Skuas are seen working their way northwards over the whole belt of the Atlantic.

At the dates and latitudes concerned it would be premature from a study of previous R.N.B.W.S. records to expect reports of the northward movement of Great and Sooty Shearwaters. It seems possible however that the British Storm-petrels recorded in 'Snellius' line India may have been confused with the arrival of the first Wilson's Storm-petrels, for we

have records from Captain Stam of Wilson's as far north as 25°N, 16°W between 16th to 24th April, 1962. The record of Blue-faced Boobies in 'Snellius' ' line Echo at 22°33'N, 16°34'W would seem doubtful due to confusion with Gannets.

The difficulty of positively identifying individual species of a family or genus under conditions at sea, with birds often at a distance or silhouetted against the glare of the sea, is illustrated in the case of the Storm-petrels and Tropic Birds. This will remain an inescapable factor no matter how knowledgable the observer. Species not positively identified are nevertheless an important factor in the total picture of records, if as much supporting detail as possible is given.

The accompanying chart shows the general pattern of the observations extracted from the text. G.S.T.]

NOTES ON BIRDS SEEN DURING A THREE WEEK SAILING CRUISE ROUND THE WEST COAST OF IRELAND

27th JULY — 16th AUGUST, 1963

By Lieutenant J. R. Furse, r.n.

Introduction

In July and August, 1963, I crewed for Andrew Stott sailing in his Fylkebat "Casket" round the west coast of Ireland from Salcombe to the Gairloch. The cruise took three weeks leaving on 27th July, thence towards Cape Clear 31st July, Inishmor 5th to 8th August. Inishboffin 10th August, Arranmore 12th August, Greencastle 14th August and so to the Gairloch.

"Casket" is sloop rigged, in length about 25 feet on the waterline and with no engine. Watching birds from such a small sailing boat in the Atlantic sun, or swell, is difficult especially when waves are superimposed on the sun. The boat reaches the top of a swell about twice a minute and Shearwaters in particular are often behind another wave at that moment. A radius of 50-100 yards is reasonably covered and actual numbers seen cannot be correlated with observations from shore or larger ships; Storm-petrels were probably often missed. Very few seabirds however paid any attention to "Casket" so that their undisturbed behaviour could be observed, and the silence gave a good opportunity of hearing their calls.

While at sea we took alternate watches of two to four hours and round the coast of Ireland we sailed up to twenty-five miles offshore. The behaviour of seabirds in this zone may be interesting simply because it is seldom observed, and if any Ornithologist gets a chance to sail round this empty coastline further notes of the movements of the pelagic species would be of great interest.

General Picture

Sailing down the English Channel there were a few Auks, Gulls, Terns, Storm-petrels and Shearwaters, and from the Scillies to Ireland some scattered Storm-petrels and a very few Fulmars. About point A on the sketch map we saw quite a large movement of Storm-petrels, one solitary Puffin and a Great Skua. Within 40 miles of the Scillies and the coast of Ireland we again encountered Auks, Terns and Black-backed Gulls.

Approaching County Cork there were many Manx Shearwaters and Storm-petrels, though neither here nor elsewhere round the coast did I notice any general movement of these species. In Long Island Bay, inside Cape Clear, there were Manx Shearwaters and Storm-petrels during the day, though none beyond the entrance to the Kenmare River to Sneem.

Off the coasts of Cork and Kerry, where we were mostly within 5 miles of the coast there were many sea birds. Further north there were not so many, though it was seldom that there were no Storm-petrels nor Shearwaters in sight, except for two areas off the Blaskets (point B) and to a lesser extent at the southern end of Donegal Bay (point C), where a great number of sea birds were spread over the sea apparently feeding.

Storm-petrels stayed with us as far as Arran in the Clyde, but after Bloody Foreland we saw fewer Manx Shearwaters.

Typical Offshore Birds Around Ireland

The commonest birds offshore were Manx Shearwaters, Storm-petrels, Gannets, Kittiwakes and Fulmars in that order. The Manx Shearwaters and Storm-petrels in particular were about the whole time scattered over the sea in flight. Gannets, flying higher, were always conspicuous, but Kittiwakes were much sparser. Fulmars were more common within five miles of the shore nearly always singly.

Between our landfall and Bloody Foreland we saw several Sooty Shearwaters. Great Shearwaters were only seen in very small numbers off the Blaskets and in Donegal Bay.

A few Great and Arctic Skuas were seen as far as Arranmore, Donegal. The only gulls which we identified far off shore were a few Lesser Black-backs. A few Common/Arctic Terns were seen off the Blaskets and in Donegal Bay, but most were close inshore.

Scattered Common Guillemots were seen, each with a young bird in company, mostly within 10 miles of the coast, but a few out to 20 miles. Puffins and Razorbills kept close to the coast.

All three species of Shearwaters were flying low over the water, and, except where gathered in flocks close offshore in the early evening, always gave the appearance of searching the water for food. In flight their bills, whenever close enough to see, were pointing downwards as if watching the water, but certainly they adopted the same attitude when flocking before preparing to return to their nesting burrows. Indeed it seemed strange that with so many Shearwaters in sight, and apparently looking for food, we did not see them feeding.

NOTES ON SPECIES

1. Manx Shearwater *Puffinus puffinus*

All round the coast of Ireland and particularly as far as point B these were common throughout daylight hours. They were usually flying in loosely scattered groups or in twos and threes rather than singly.

2. Sooty Shearwater *Puffinus griseus*

Between Schull and Bloody Foreland about 20 single birds were seen. The body is much plumper than the Great Shearwater, and at sea the brown tinge on the body is very seldom noticeable. Only a few birds showed a clear whitish line on the underwing. Its flight has a more

laboured appearance than the Manx or Great Shearwater with its wings more often bent at the wrists, and with more flapping.

3. Great Shearwater *Puffinus gravis*

Between 2 and 4 were seen singly off the Blaskets, and 2 in company in Donegal Bay. Unlike the other Shearwaters they tended to stay near our boat, two in particular sweeping up and down our track to within 200 yards, often within a few feet of the boat for about one hour. These 5 or 6 birds varied considerably in colour, some showing much paler markings on the upper side of the wings while others were uniformly dark brown on top. The white line at the base of the tail was sometimes marked, but in most cases faint. The dark cap was prominent, usually graded into the back by faint markings over the nape. Close to the underwing was marked with narrow brown feather edgings, though at a distance it appeared as a uniform off white.

4. Cory's Shearwater *Puffinus diomedea*

None were seen.

5. Fulmar Petrel *Fulmarus glacialis*

We saw these regularly, sometimes sitting on the water feeding coming over the boat to investigate and settling to eat guts when we were cleaning fish.

6. Storm-petrel *Hydrobates pelagicus*

Common throughout the cruise, usually feeding each on its own and taking no notice of the boat. Between 1600 hrs. and 1800 hrs. at about point A 300 passed us all travelling eastward.

7. Gannet *Sula bassana*

Those seen off Ireland were nearly all adults. On two or three occasions I heard them giving a call between a bark and a grunt.

8. Arctic Skua *Stercorarius parasiticus*

About 10 were seen from Schull to Arranmore, Donegal. They were seen to chase Terns, Kittiwakes, Manx and Sooty Shearwaters.

9. Great Skua *Stercorarius skua*

About 11 were seen in all. They were not seen to harry other sea birds.

10. Kittiwakes *Rissa tridactyla*

Adults were common offshore with only two or three in juvenile plumage. When we were cleaning fish they appeared from nowhere, and on one occasion at night they kept up a continual mice-like squeaking, a most incongruous sound. We never heard the normal "Kitt-iwark" call.

11. Common Guillemot *Uria aalge*

Nearly all seen offshore were single birds each with one young bird, but some occurred as much as 20 miles from land. The young birds were excessively fat and frequently were unable to fly, crashing again and again from one wave crest into the next.

12. Puffin *Fratercula arctica*

Puffins were less numerous than Guillemots. On one occasion a single bird made repeated attempts to land on the boat over a period of 15 minutes.

13. Razorbill *Alca torda*

Only a few seen close inshore.

14. Other Sea Birds

Two Red-breasted Mergansers *Mergus serrator* were seen in the Kenmare river and about thirty Common Scoters *Melanitta nigra* in Long Island Bay. Two Red-throated Divers *Colymbus stellatus* were seen at Clifden.

15. Landbirds at Sea

Two Dunlin *Calidris alpina* were sighted about 25 miles NE of Erris Head.

16. Landbirds Ashore

No Peregrine Falcons *Falco peregrinus* nor Buzzards *Buteo buteo* were seen, but Choughs *Coracia pyrrhocorax* were quite common feeding in the pastures above the cliffs in the Arran Islands. One Corncrake *Crex crex* was heard calling in a Croft field on Inishmaan, Arran Islands. One Greenshank *Tringa nebularia* was heard on Inishmore and two seen at Clifden. One Khimbrel *Numenius phaleopus* was seen at Inishboffin.

THE OCCURRENCE OF SKUAS ON THE NORTH ATLANTIC UK-CANADA TRADE ROUTES

By Captain E. F. Aikman, M.N.

This note is compiled from observations between 1953-63 inclusive, plus the first two months of 1964 and the first three of 1965. Great Skuas are unmistakable, and so also are Pomarine Skuas. The same is true of Long-tailed Skuas if the central tail feathers are fully developed, but it seems that these may at times be no longer than the longest of the Arctic Skuas, and in all three of these smaller Skuas the extended tail feathers may be broken off short, while they are absent in immatures and moult. This may be partly the reason why I have so few records of Arctic Skuas.

THE TABLES

In the tables the figures not enclosed in brackets show the number of observations and not the number of birds observed. Figures within brackets show the number of occasions when two or more birds have been seen together.

Only positive identifications have been taken into account except that against X in table B are shown records of birds, definitely or probably Skuas, which could not be classified as to species.

Table A shows the records of Great Skuas. Taken over the whole year the distribution east of 40°W is fairly even, increasing towards the east. The section east of 10°W is limited by the coast (in most cases the Scilly Islands). The western limits are Belle Isle (off northern Newfoundland) in 55°W, Cape Race (SEn corner of the island) in 43°W, and on winter voyages to St. John, N.B. my observations may extend to 65°W, but Great Skuas have not been recorded west of 53°W. Pomarine Skuas have been seen in the Strait of Belle Isle.

The monthly figures suggest a migratory movement, principally in pelagic waters, and also seem to show that the main winter range of the Great Skua is south of the Bishop Rock-Cape Race track. Of the nine January records five were obtained in one voyage this year (1965), Le Havre to St. John N.B., when I took a route considerably further south than usual. On successive days, 7th-11th January the following numbers of Great Skuas were seen—49°N, 6°W (1); 47½°N, 11½°W (5), the highest number yet seen at one time and about 150 miles south of the seasonal Great Circle track; 46°N, 19°W (3); 45°N, 23°W (3); 44°N, 27°W (1).

In "The Field Guide to the Birds of Britain and Europe." Great Skuas are described as being solitary outside the breeding season. Two thirds of my records are of single birds, the remaining one third, with two exceptions, are of two or three birds seen together.

I have been at sea in November every year except 1954 (I was ashore the whole of that winter) and ten voyages have been made on the Bishop Rock-Belle Isle track and two Bishop Rock-Cape Race, yet there is still a complete absence of November records.

Table B shows the records of Pomarine, Long-tailed and Arctic Skuas. The northward migration of the Pomarine and Long-tailed Skuas shows clearly that of the latter appearing to be more restricted both in time and longitude range. Although there are nearly twice as many records of Pomarines the numbers seen of Long-tailed are much higher. The greatest number of Pomarines noted at any time has been plus or minus one dozen, and there are five such records. Long-tailed Skuas appear in similar or greater numbers up to 50 plus on ten occasions. Included in the table is an observation by my friend Mr. Hoyes Lloyd of Ottawa, well known in N. American ornithological circles. In May, 1950, when travelling in a ship of which I was Chief Officer, he sighted in one day about 160 Long-tailed Skuas. The noon position, approximately 53°N, 27°W, is further east than any of my own positive records of this species.

The positive records of Arctic Skuas are all too few for definite conclusions to be drawn.

Footnote. Great Skuas sometimes follow a ship for several hours. Pomarines also follow at times, but not to the same extent, and I have never observed Long-tailed or Arctic Skuas following.

Pomarine Skuas have been noted in dark phase on eleven of the thirty-six observations, but the ratio of dark to light birds in total numbers seen is much lower than that. All the Long-tailed Skuas have been in the light phase.

Postscript (Not included in tables)

29th March, 1965. 46°N, 39°45′W. 1 Skua in light phase, probably Pomarine, flying north.

30th March, 1965. 47°N, 34°50′W. 4 Great Skuas astern at 1220 hours.

31st March, 1965. 48°N, 26°30′W. 2 Great Skuas seen at 0820 hours and 3 single birds later during the day.

OBSERVATIONS OF STORM-PETRELS OFF THE COAST OF BRITISH GUIANA IN MAY AND JUNE 1965, WITH SOME NOTES ON IDENTIFICATION

[Note by Editor: The observations recorded in Part I together with the photographs have been supplied by Rear Admiral G. S. Ritchie, D.S.C. In Part II opportunity has been taken to link the photographs with some aspects in the identification at sea of certain Storm-petrels from the recorded observations of R.N.B.W.S. members.].

PART I

There are many records of seabird distribution in the well travelled seas, but little information from the remoter part of the tropics.

In May and June 1965 while H.M. Surveying Ship Vidal was ship sounding ten to seventy miles offshore between the Berbica and Corentyn rivers of British Guiana numbers of Storm-petrels were observed, including several exhausted and dishevelled Leach's Storm-petrels recovered onboard after heavy rainstorms. Full examination forms were completed for these, documented with photographs by Naval Airman (Phot.) K. F. Rushby.

In general both Wilson's and Leach's Storm-petrels were common in May, declining in numbers as June advanced. The Wilson's Storm-petrels appeared active and healthy, and remained unaffected by the tropical rainstorms. The Leach's Storm-petrels appeared weaker, and some seemed unable to survive the storms, becoming so sodden that they were almost unable to fly.

The largest concentration of birds was seen on 12th May, about 30 birds clearly identified as Wilson's which were photographed successfully on the wing. On the evening of 2nd May, when H.M.S. Vidal was anchored off the Corentyn River, and Wilson's Storm-petrels were about the ship, an unusual occurrence was witnessed by three reliable ratings who were fishing from on deck. A Storm-petrel flying near the surface was seen to be taken by a shark which raised its head out of the water to do so. Between 24th May and 1st June four tired and dishevelled Leach's Petrels were found, on each occasion in the evenings onboard; one had the right foot missing and two had the toes excessively bent down. No Leach's Petrels were seen after 1st June, and only occasionally were small numbers of Wilson's seen astern of the ship. One of the latter struck a sailor while it was flying over the deck after dark on 22nd June; it seemed in first class condition and plumage, and squeaked volubly while being examined.

The record of a shark capturing a bird in the air shows the importance of this hazard. The fact that one of the recovered Leach's Petrels also had part of a leg missing points to the fact that these little birds may fall victims not only to sharks but to barracudas and other predatory fish in tropical waters, and explain why so many sea birds have injuries to their feet.

Dr. W. R. P. Bourne who has studied a complete set of the many photographs suggests that the observations appear to cover the latter stages of both the northward migration of Wilson's Petrels after breeding in the Antarctic, the birds being in full plumage, and the final stages of the moult and departure of northern Leach's Petrels which had been wintering in the tropics. The prominent pale edges to the scapulars and secondaries can be seen on some of the photographs of the Leach's, which suggest that they were first year birds completing the moult late, after the adults had returned north to breed. W. W. A. Phillips has discussed this aspect of moult in Wilson's Petrels when they in their turn were moulting off Ceylon in the autumn of 1954 (J. Bombay Nat. Hist. Soc. 53: 132-133).

WILSON'S STORM-PETREL *(Off British Guiana, 22nd June, 1965)*
Photo: Naval Airman (Phot) K. F. Rushby, H.M.S. Vidal
NOTE. *Appearance of tail, white feathers above rump, and yellow webbed feet extending beyond tail.*

WILSON'S STORM-PETREL
Photo: Naval Airman (Phot) K. F. Rushby, H.M.S. Vidal
NOTE: *The feet can just be seen protruding beyond the tail.*

LEACH'S STORM-PETREL *Photo:* R.N.B.W.S.
NOTE: *Broad pale upper wing covert bands, dark feathers between white area above rump and forked tail.*

LEACH'S STORM-PETREL
Photo: Naval Airman (Phot) K. F. Rushby, H.M.S. Vidal
NOTE: *Short legs and forked tail.*

LEACH'S STORM-PETREL *(Off British Guiana, 25th May, 1966)*
Photo: Naval Airman (Phot) K. F. Rushby, H.M.S. Vidal
NOTE: *Outer 5 primaries not yet shed. Note growing tail feather, inner primaries and secondaries and apparently old scapulars.*

LEACH'S STORM-PETREL *(Off British Guiana, 25th May, 1966)*
Photo: Naval Airman (Phot) K. F. Rushby, H.M.S. Vidal
NOTE: *Advanced moult with new flight feathers growing and pale edges to probable old scapudars.*

PART II

By Captain G. S. Tuck, d.s.o., r.n.

Many notes have been received from members of R.N.B.W.S. of the characteristics of Storm-petrels as observed at sea to assist in their identification, and important descriptions provided by W. H. Bierman and K. H. Voous in their account of the voyage of the William Barendsz (Ardea 1950, supplement), and G. E. Watson's Preliminary Smithsonian Identification Manual to the Seabirds of the tropical Atlantic.

The notes which follow sumarise the characters distinguishing the four small dark, white-rumped Storm-petrels of the Atlantic.

General. Four small, dark, white-rumped storm-petrels occur in the Atlantic, the British Storm-petrel *Hydrobates pelagicus*, Wilson's Storm-petrel *Oceanites oceanicus*, the Madeiran or Harcourt's Storm-petrel *Oceanodroma castro*, and Leach's Storm-petrel *Oceanodroma leucorhoa*.

Superficially they are all very similar in appearance, sooty-black above with sooty-brown underparts, dark bills with raised tubular nostrils, dark legs, a paler stripe on the upper wing along the edge of the wing coverts, and a white patch above and to a variable extent at the side of the base of the tail. The British Storm-petrel is noticeably smaller, and Wilson's is slightly smaller than the other two, but it is hard to be sure of this at sea. Both the British and Wilson's have square tails, while the tail is slightly forked in the Madeiran Storm-petrel and markedly so in Leach's, but this also is hard to see, as are their only distinctive markings, a grey centre to the whote rump of Leach's Petrel, a white patch under the wing in the British Storm-petrel, and the yellow webs of Wilson's. Reliable identification has to depend to a large extent on flight and behaviour at sea, and critical examination of the markings and measurements in the hand.

British Storm-petrel. This breeds along the Atlantic coasts of Europe from the Westmanns to the Canaries, and in the Mediterranean, feeding over the continental shelf, and winters off West and South Africa; it is not found far out at sea or on the American side. It is the smallest, 6 inches overall length, with a wingspan of about 14 inches. At sea it appears dark brownish-black. With a distinct clear uniform patch of white feathers above the rump, the upper and lower limits appearing slightly curved outwardly towards the tail. There is little white at the side of the tail, which is square, but looks slightly rounded at the tips. At close quarters the pale patch under the wing can quite often but by no means always be distinguished. The legs and feet are short and black and never show beyond the tail. Compared with the other three the flight is noticeably weak with almost unceasing fluttering wingbeats, hovering with dangling feet while feeding, though it does not swoop or skim or walk on the water to the same extent as the various other species. It is usually seen singly or in quite small parties, exceptionally in larger ones, and while it will follow in the wake of ships it does not do this habitually.

Wilson's Storm-petrel. This spreads from the Antarctic north throughout the Atlantic to about 45°N in the southern winter, where it

prefers the offshore zone though also widespread at sea. It is just perceptibly bigger than the British Storm-petrel at sea, about 7 inches long with a wingspan of 16inches. It is rather darker in colour, with a larger white patch on the rump that extends round the side of the tail more, but it lacks the pale patch under the wing. The pale upper wing coverts are also slightly more prominent, but in all this group they vary with age and wear, while young birds can be recognised by unusually prominent pale tips to the secondaries and scapulars. The dark legs are unusually long, and it may normally be recognised at once by the characteristic appearance of the toes projecting beyond the centre of the tail (just visible in the photograph). There are very distinctive yellow patches in the centre of the webs of the feet, but this character, cited in all the textbooks, is extremely hard to see at sea. The flight is stronger and more direct than in the British Storm-petrel, skimming back and forth over the waves, showing the tell-tale feet; it will also "walk" or "stand" on the water, bouncing over the surface or hovering over food with its long legs dangling, especially in calm weather. It habitually follows ships, sometimes in numbers, working back and forth across the wake in search of food.

Madeiran Storm-petrel. This elusive species breeds on oceanic islands and disperses at sea around the margins of the tropics, and appears to be rare anywhere near land at any time. The overall length is about 8 inches, the overall wingspan about 18 inches. At sea its wings look longer and more pointed than the British or Wilson's Storm-petrels, and its square-cut white rump with the upper and lower edges parallel is about as prominent as that of the former. The slight cleft in the tail hardly amounts to a fork and is seldom noticed. Its black legs are short, and it does not normally dangle them or "walk on the water". Its flight is freer and stronger than that of either the British or Wilson's, fast and direct, with more constant and slower wing-beats than the rapid fluttering of the other two. Sometimes it will make quick turns or zigzags, but it does not normally tilt from side to side. It is usually seen singly, sometimes in pairs, in the open ocean, and it rarely follows ships. It is the hardest of the four to see and identify reliably.

Leach's Storm-petrel. This breeds abundantly on the west side and sparingly on the outlying islands of the east side of the northern parts of the Atlantic, and winters at sea throughout the tropics. Its overall length is about 8½ inches and its overall wingspan about 19 inches, so it appears a long-winged bird, and looks larger and browner than the others at sea. The pale rump is always less clearly defined than in the other species, and unlike them it does not have well-defined dark tips to all the longest feathers, but instead dark shafts to the central ones. The amount of pigment there varies; it is seldom extensive enough to be noticed at sea in the Atlantic, but exceptionally it may be more extensive, so that the white rump is divided into two ovals by a central dark line; in the Pacific races the whole rump may be dark. The tail broadens towards the tip and is markedly forked, though this is hard to see at sea; both the rump markings and fork should be noticed in the hand (though they rarely are). The wings are long, pointed, and fairly broad at the base, and the paler coverts may form a more marked band across them than with the other species. The dark legs do not show beyond the tail, and are rarely seen. Its flight appears freer, more buoyant, and more leisurely than with the other species, and while it may twist and turn quickly, it is purposeful rather

than erratic, with a distinctive bouding character as it passes by. It is usually seen singly and takes little notice of ships.

One observer has remarked that when storm-petrels are following in the wake they can be identified more easily if it is possible to watch them from a position as low down as possible such as a scuttle overlooking the stern, if there is one available! They are seen best of all from small boats, which they will aproach within feet. The real trick to identifying them easily, as with so many seabirds, is endless experience, until their peculiar tricks of flight can be spotted intuitively, without thought, as one recognises another person's face. It is a hard and unrewarding task to try and sort out distinctive marks until this is learned with time, and one which has defeated many of the best experts in the trade.

BIRDS OF THE NORTH PACIFIC

By Captain Francis Poole, f.r.g.s.

Between September 1952 and May 1954 we made five return voyages across the North Pacific on the Great Circle track between Vancouver, British Columbia, and Yokohama, Japan, passing with thirty miles of the Aleutians at about 52°N. The birds seen were identified from Alexander's "Birds of the Ocean", and uncertain ones have been excluded. A list of records is deposited in the Bird Room at the British Museum (Natural History).

Black-footed Albatross *Diomedea nigripes*. The Black-footed and Laysan Albatrosses were the most constant followers of the ship, and over the whole period we saw 850 Black-foots and 180 Laysans (excluding 100 albatrosses following a school of porpoises off the east coast of Japan).

The species was seen throughout the passage, with one off Port Angeles about a hundred miles inside the Straits of Juan de Fuca separating Canada from the U.S.A. Mature birds were quite conspicous, and most prevalent over the middle of the ocean; immature ones were seen nearer the coast, especially that of Japan. On our return trip to the Atlantic they were also seen south to 22°N. 109°W. on 15th June, 1954.

They were quite friendly with the other birds which followed astern, such as the Laysan Albatross, Glaucous-winged Gull, Storm-petrels and the occasional dark Fulmer, but when an immature Double-creasted Cormorant *Phalacrocorax auritus* flew across the bows off the Canadian coast and settled on the water a Blackfoot went right at it, and when it surfaced after diving it was attacked by several of them; unfortunately we lost sight of it after that.

Most were seen in September and October just before nesting, while in November and December they were only seen occasionally. They never tried to land on board, even in a fog. Once or twice they flew near the bridge, but took no interest in food offered to them. They usually glided back and forth across the wake looking for galley garbage. When alighting on the water they kept their wings spread, only folding them if they stayed some time. When taking off they ran over the water. They left us at dusk, returning in ones and twos at daybreak. They kept fairly close astern, gliding and rarely flapped their wings, and bad weather did not seem to bother them at all.

Laysan Albatross *Diomedea immutabilis*. These appeared to have a slightly smaller wingspan than the Blackfoot, and were also a little less

aggressive. When in numbers they stayed further astern, but occasional individuals came up with the main body of the others. Several times half a dozen were seen criss-crossing over the wake half a mile astern on their own, presumably in search of some special food.

They were commonest in the western half of the ocean, especially within a few hundred miles of Japan. They always left before the Blackfoots when approaching the coast, and the nearest to Japan were six at 36°N 141°E on 10th June, 1953, while the nearest to Canada was one at 48°N 133°W on 25th December, 1952. Alexander says they only occur north to about 40°N, but I saw them north of 52°N not once but many times. The most off Japan was 25 at 45°N 155°E on 22nd October, 1953, with twelve off the Aleutians at 50°N 173°W on 23rd September, 1953, and three off Canada at 49°N 133°W on 10th December, 1953.

As with the other seabirds, it was hard to tell how long they stayed with the ship; occasionally I saw one for several days in succession, but there was no means of proving that it was the same one. Their manner of flight and feeding was the same as with the Blackfoot.

Short-tailed Albatross *Diomedea albatrus*. At 49°N 176°E on 22nd April, 1954, while watching birds astern I saw a white bird with the flight of an albatross with black tips and edges to the wings, flying, or at least gliding, among the Blackfoots. It came within a couple of hundred yards of the stern but did not stay long. After examining skins I have come to the conclusion that it was this species, the only one I saw in two years watching albatrosses.

Fulmar *Fulmarus glacialis*. The dark phase was seen all along the route throughout the year except between February and June during the year in which I kept records. Out of eighty only three were in the pale phase, all within a hundred miles of the Canadian coast, and two of these were on successive days so that they may have been the same. They are not regular ship followers, though occasionally one or two would be seen gliding back and forth on the lookout astern.

Sooty Shearwater *Puffinus griseus*. These were very prominent from April to November in numbers ranging from two and threes to flocks of fifty or so. One flock of a couple of thousand was also seen at 51°N 167°W, a hundred miles off the Aleutians. One came aboard in fog at 49°N 152°W on 20th December, 1962.

Short-tailed Shearwater *Puffinus tenuirostris*. 1,000 were seen at 44°N 152°W on 9th September, 1952, and 100 at 50°N 180°W on 4th June, 1963, and probably odd ones at other times which were hard to identify. The first flock was following a shoal of porpoises.

White-faced Shearwater *Puffinus leucomelas*. These were only seen withoin a hundred miles of Japan, where a flock of 1,000 crossed and recrossed our bows off Inyboye Lighthouse on 22nd August, 1953.

Pink-footed Shearwater *Puffinus creatopus*. Six were seen at 48°N 125°W on 10th August, 1953 and one at 50°N 135°W next day.

Black-vented Shearwater *Puffinus opisthomelas*. One was seen off the Straits of Juan de Fuca on 28th September, 1953.

Peale's Petrel *Pterodroma inexpectata*. Several hundred with several Sooty Shearwaters were seen during the day at 41°N. 150°E on 10th September, 1952, and three at 36°N. 141°E on 21st August, 1953.

Leach's Petrel *Oceanodroma leucorhea*. These were seen infrequently all the way across from June to September, with most off the Canadian coast. One came aboard in fog at 50°N 132°W on 1st September, 1952.

Fork-tailed Petrel *Oceanodroma furcata*. These were seen from the Canadian coast to 160°W. One came aboard with the Sooty Shearwater at 49°N 152°W on 20th December, 1952.

Pomarine Skua *Stercorarius pomarinus*. Pale phase birds at 51°N 175°W on 15th August, 1953, 47°N 162°E on 21st October, 1953 and 50°N 145°E on 24th April, 1954

Long-tailed Skua *Stercorarius longicaudus*. One at 47°N 162°E on 7th June, 1953, and at 50°N 135°W on 11th August, 1953.

Glaucous-winged Gull *Larus glaucoides*. These followed us all the way across from October to March. Most had a brownish neck. Now and again they would settle on the mast, though they did not do it habitually. They behaved like other gulls and fed on the galley garbage.

Kittiwake *Rissa tridactyla*. These were also seen from October to March, about 20 of 120 recorded being immature. Nearly all were between Japan and 180° meridian, with only three between there and Canada. They did not follow ships in the way they do in the Atlantic, nor take galley refuse.

Tufted Puffin *Lunda cirrhata*. Four were seen at 51°N 167°W on 3rd June, 1953, twelve at 50° N 180°W on the next day, two at 49°N 170°E on 6th June, and one at 47°N 162°E next day.

Guillemot *Uria aalge*. Seen in summer with 200 to 300 miles of the Canadian coast.

Marbled Murrelet *Brachyramphus marmoratus*. A considerable number off Victoria in the Straits of Juan de Fuca in summer.

Snow Goose *Chen hyperboreus*. A flock of ca. 100 flying about SSE at 50–100 feet at 50°N 140°W on 18 October, 1954.

Canada Goose *Branta canadensis*. Fifty heading SE at 49°N 164°W on 27th September, 1953.

Northern or Red-necked Phalarope *Lobipes lobatus*. One on board off Yokohama on 23rd August, 1953, and one seen at the entrance to the Straits of Juan de Fuca on 28th September, 1953.

Golden Plover *Charadrius dominicanus*. One landed on board with a force 4 NNW wind on 23rd April, 1954.

Ruddy Turnstone *Arenaria interpres*. One on board at 36°N 141°E on 10th June, 1953.

Peregrine Falcon *Falco peregrinus*. A male on the mast in a westerly gale at 50°N 156°E on 19th October, 1953, stayed till next day. Another at 49°N 159°E on 21st September, 1953, stayed two days and left at 48°N 176°E. One at 29°N 130°E on 31st October, 1953.

Nighthawk *Chordeiles minor*. One on board at 44°N 158°E with a force 4 west wind on 20th April, 1954.

American Pipit *Anthus spinoletta*. One on board at 47°N 165°E on 9th September, 1953.

Alaska Longspur (=Lapland Bunting) *Calcarius lapponicus*. One on board at 52°N 155°W with a force 5 SSE wind on 15th October, 1953.

Snow Bunting *Plectrophenax nivalis*. One seen at 49°N, 170¾°W with a force 6 NW wind on 16th December, 1952, and three at 50°N 180°W with a force 5 ENE wind on 4th June, 1953.

IDENTIFICATION OF "COOKILARIA" AND HYPOLEUCA PETRELS IN THE TASMAN SEA AND AROUND NEW ZEALAND

By Lieutenant A. Y. Norris, R.N., M.B.O.U.

While serving in Australasian water from October, 1960 to early February, 1963, I was faced with the problem of the identification at sea of the "Cookilaria" and *Hypoleuca* petrels of the genus *Pterodroma*. That this problem is difficult is not denied but with practice and care, it is not insurmountable.

Using the skins and references available in the Australian Museum, Sydney, I compiled a provisional key. Subsequently, numbers of Gould's Petrels *P.leucoptera* were seen during the breeding season in the vincinity of Cabbage Tree Island, NSW and Cook's Petrels *P.cooki* were observed outside the littoral region to the north east of North Island, New Zealand. In October, 1962, I visited Little Barrier Island off North Island. Here, both living and freshly killed Cook's Petrels were examined near the large breeding colonies of the island. Many birds collide with the branches of the trees of the forest during the ascent of the mountains while others are killed by feral cats near and in the colonies. Since February, 1963, I have compared the published notes in *Sea Swallow*, and to the results I have added the valuable observations of Lieutenant Commander R. O. Morris, Royal Navy, who spent 1963 around Fiji and in the region to the north of New Zealand.

The key in its 1963 form was found to be satisfactory when sea descriptions were compared with it in conjunction with several species in the hand. However, apart from the Prions *Pachyptila* Spp., included because of their basic similarity, only *P.cooki, P.l.leucoptera, P.l.brevipes* and *P.(hypoleuca) nigripennis* have been checked against the key. What is now desired, to quote Lt. Cdr. Morris, ". . . . is to ask members of the R.N.B.W.S. to give it a thorough trial at sea to prove its value or otherwise." For this reason, the key is offered to *Sea Swallow* as the most suitable means to attain this aim. The distribution of the two groups of petrels seems to be imperfectly known particularly in the non-breeding period. I would be most grateful for comments upon the merits or otherwise of the key and for suggestions for further improvement.

Because of the vagaries of seabird taxonomy, there remain a number of inconsistencies in the nomenclature (Alexander et al, 1965). Therefore users of the key may encounter some confusion upon what constitutes a species. In this context, Pycroft's Petrel which is regarded in New Zealand as a full species and elsewhere, apparently, as a race of Stejneger's Petrel *P.longirostris*, is treated as the latter in the key. Most authorities now regard the Collared Petrel *P.brevipes* in Alexander (1955), as a race of Gould's Petrel; this treatment has been followed.

1. (a) Small, stocky petrels with moderately long wings. Length 10 to 12 inches. Greyish upperparts including forehead and rump. Underparts white. Dark, inverted W pattern across lower back and wings. Tail wedge-shaped and tipped black. Flight flap and glide. Usually remain close to the water and often concentrate in large, compact flocks, sometimes far out to sea.—Prion Spp.

   (b) Similar to 1 (a). Differs in that has whitish forehead, normally darker crown, squarish tail tipped white, and has greater wing span. Usually distributed northwards to latitude 40°S.—Blue Petrel *Halobaena caerulea.*

   (c) Small, usually slim petrels with longish, narrow wings and inverted W pattern of varying prominence across back and wings. Length varying 9 to 13 inches. Primaries dark. Back varying from light to dark grey; in one species tinged brown. Forehead and underparts normally white. Colour of crown and nape extending to include the eye. Tail shortish. Flight swooping and soaring in moderate to strong winds. Likely to be seen singly or in small, loosely-formed parties.—"Cookilaria" and *Hypoleuca* petrels.—2.

2. (a) Back, rump and tail lightish grey. White on inner webs of primaries. Undersides of wings white thinly edged black. Bill small and black.—3.

   (b) Back, rump and tail mid-grey, dark grey or mid-grey/brown. Bill dark.—4.

3. (a) Length 10½ to 11 inches. (Compare Dusky Shearwater *Puffinus assimilis* and Prion Spp.) Nape, crown, sides of neck and breast light grey tinged brown. Forehead white or finely mottled grey and white. General colour dorsal surface of wings darkish grey with distinctive W pattern and much white on inner webs of primaries. Feet and legs bluish. Flight in light airs to light winds: languid and rolling. In breeding season, distributed over areas of cool, surface water E. of New Zealand. Migrates to N. Pacific in southern winter.—Cook's Petrel *Pterodroma cooki.*

   (b) Length 9 to 10 inches. (Compare slightly smaller Bulwar's Petrel *Bulweria bulwerii* and White-faced Storm-Petrel *Pelagodroma marina.*) Build small and neat. Lightish grey upperparts; crown darker grey. General colour on dorsal surface of wings slaty; W pattern not so prominent as in 3(a) although wing covers darker and less white on inner webs of primaries. Feet and legs blue, webs white. Flight in light airs: moth-like flap and glide. In breeding season seems to be distributed over areas of sub-tropical water to N.E. of North Ireland, New Zealand and to migrate to low latitude in the northen half of the Pacific in southern winter.—Stejneger's Petrel *Pterodroma longirostris.*

4. (a) Length 12 inches. (Compare Short-tailed Shearwater *Puffinus tenuirostris.*) Crown, nape, sides of neck sooty black. Black patch before the eye. Back, rump and tail dark grey. Dorsal surfaces of wings slate grey; W pattern indistinct. Area of upper wing coverts in front of the W appears scaly in good light; in excellent light, W pattern becomes more obvious. Feet and legs flesh tinged blue.

Flight in light airs to light winds is a flap and glide with some dipping and rolling, thus resembling that of 'Marsh Terns' especially the Black Tern *Chlidonias nigra*. In the non-breeding period appears to move northwards away from the breeding regions.

(i) Underparts normally white but some individuals have full or partial dusky grey band across upper breast and dusky patches on flanks. Ventral surfaces of wings white with thinnish, dark edges. In breeding season distributed over sub-tropical water off N.S.W. and to the southern limits of the East Australian Current in the Tasman Sea (Norris 1965).—Gould's Petrel *Pterodroma leucoptera leucoptera*.

(ii) Underparts white or dusky with exception of white throat; rare plumage phase occurs in which entire underparts are dusky. Ventral surfaces of wings white with dark wedge along fore-wing from body to carpel joint while outer primaries dark; thin, dark trailing edge. In breeding season occurs in vicinity of the Fiji Group.—Collared Petrel *Pterodroma leucoptera brevipes*.

(b) Length 13 inches. (Compare Fluttering Shearwater *Puffinus (puffinus) gavia*.) Stouter than (3a) and (b), 4(a) with heavier bill. Upperparts mid-grey; slightly darker on crown and nape; tail grey. Dorsal surfaces of wings sooty grey with lighter coverts; white on inner webs of primaries; W pattern discernable. Ventral surfaces white with very dark bar along forewing widening to a conspicuous, black axilliary patch; trailing edge of wing edged dusky grey. Bill black. Feet and legs pinkish, dark tip to toes. Apparently occurs in the region of the Sutropical Convergence to E. of New Zealand and breeds at the Chatham Islands.— Chatham Petrel *Pterodroma (hypoleuca) axillaris*.

(c) Similar to 4(b) but with darker upperparts particularly on crown. Upperparts mid-grey/brown. Darkish tip to tail. W pattern distinct. Dorsal surfaces of wings dark tinged brown without grey coverts of 4(b); little white on inner webs of primaries. Ventral surfaces white with thick black edge to forewing from primaries to carpel joint thence a black line across the under wing coverts towards the flanks; thick, dusky, trailing edge and white axilliaries. Soft parts as 4(b). Generally distributed over subtropical waters from E. Australia eastwards to the Austral Islands and has been recorded southwards to latitude 39°S to the E. of the Dominion.—Black-winged Petrel *Pterodroma (hypoleuca) nigripennis*.

Fleming (1954) has suggested that the dark anterior margin of the underwing in the *Hypoleuca* group may serve to differentiate it from the "Cookilaria" group. Bourne (pers. comm.) has indicated that members of both the groups get darker with a decrease of latitude in breeding distribution so that unrelated forms may resemble each other closly.

To summerise such details of distribution as given in the key, it seems fairly clear that species of the "Cookilaria" group are migratory, breeding in the South Pacific and spending the southern winter in the northern half of the Pacific Ocean. Those of the *Hypoleuca* group appear relatively sedentary. The Bonin Petrel *P.hypoleuca* occurs in the North Pacific.

Acknowledgments

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HERE AND THERE WITH THE BIRDS
FROM THE EDITOR'S LOGBOOK

A NOTE FROM THE ISLANDS OFF THE COAST OF THE TRUCIAL OMAN

When I received, quite unexpectedly, the Natural History Log of H.M.S. Owen dating back to 1955, and kindly sent me by Able Seaman Hardy, the Navigator's Yeoman, it was with natural anticipation that I turned over the pages. Nor was I disappointed for herein lay detailed notes of whales, fishes, sea snakes, butterflies and moths, in fact all those aspects of nature which can be observed from the deck of a ship at sea—not forgetting the birds.

The coastline of the Trucial Oman is studded with islands rarely, if ever, visited by naturalists, and on the first page of the log I found the following entries November, 1954, to April, 1955.

"Southern part of the Persian Gulf on the islands offshore of the Trucial Coast.

Flamingoes have been seen on several occasions in flights of a dozen or more at a time making to the NE. On 22nd February, 1955, thirty-five Flamingoes were assembled on the small flat sandy island of Halat Hail; two half grown birds were amongst them. When disturbed they did not fly away but set up a "gobbling" cry, flapping their wings which showed a brilliant crimson band.

Socotra Cormorants abound on all the islands visited in the Gulf. The islands are also their nesting grounds. The flocks number many thousands

and it is difficult to know how all can exist. Many indeed do not, for dead birds litter their habitat, and as they show no external injury it is assumed that they have died of starvation. At their nesting sites young birds also litter the ground and although some casualties may have occurred through rock falls it would seem more likely that they too have starved.

The young when hatched and for some weeks afterwards are covered with short white down. The nesting places on the islands occur on the sheltered sides of the summits, that is the S.E. sides, the nests being made up of loose shale and guano, the eggs hatching out during February/March. The revolting stench at the nesting sites is aggravated by the presence of small white "crab lice" which delight in biting humans as a change from the less appetising 'Shag'.

Red-billed Tropic Birds have been observed frequently in the southern area of the Gulf during March and April, but have not been seen during the winter months.

[*Note :* However Chief Officer W. P. Grone has reported Red-billed Tropic Birds apparently colonising the small island of J. Tawakul during the winter but gave no precise date—*Sea Swallow,* 1962, page 31.—Ed.]

Aden Gulls and Great Black-headed Gulls have been seen throughout the period, and in late March a Lesser Frigate Bird landed on the ship. It was exhausted and definitely identified.

During a 2½ days camping party on the island of Jaziratal Quarnain in early February five Sea Eagles were present [From the description and sketches these were clearly Ospreys.—Ed.] There were at least two eyries on top of the craggy hills, large untidy nests six foot across consisting of pieces of coconut rope, sponges and remains of prey. The latter included fish scales and tails, lizards' tails, birds' heads, and bones up to eight inches long. The birds themselves were soaring overhead most of the day, but still active, noisy and on the wing at 10 p.m., a full moon riding high overhead. On several occasions they were seen to be carrying large objects in their talons."

HURRICANES IN THE OFFING

It takes a dedicated birdwatcher to keep his bird log going when a hurricane is approaching, but Radio Officer W. F. Curtis, s.s. Mobil Skill, trading between the Caribbean and New York during August and September, 1964, included the following notes in his passage census sheets:

"24th August, 1964. 18°54′N, 67°48′W (The Mona Passage west of Puerto Rico). Wind already cyclonic force 9 to 12 and above. 35 Brown Boobies, 11 Blue-faced Boobies, 4 Common Noddies and 40 Sooty Terns. Hurricane 'Cleo' approximately 100 miles to the south. Wind between 50 and 70 knots. Boobies and later Frigate-birds did not seem unduly hampered and except for odd occasions had full control of flight in rapidly rising wind. The terns were showing great difficulty. An hour later 'Cleo' swung suddenly northwards and passed over the ship, wind speeds being estimated at 130 knots (San Juan Weather Bureau). Visibility was now nil so no birds could be seen in any case, nor were any seen for the rest of the day after the hurricane had passed. [No doubt they had been blown before the wind—Ed.]

11th September, 1964, 17°47′N, 65°12′W (The Virgin Passage east of Puerto Rico). 90 Audubon's Shearwaters, 20 Magnificent Frigate-birds, 50 Brown Boobies, 20 Blue-faced Boobies, 500 Sooty Terns, 1,000 Common Noddies and 100 Brown-winged Terns. The vessel went through the Virgin Passage instead of the Mona Passage to avoid hurricane 'Ethel' which was

about 100 miles north of Puerto Rico moving westwards. Almost all the birds were in one concentration two or three miles south of the islands and a large shoal of fish was noted in the vicinity. Eighteen to twenty-four hours earlier the hurricane had passed to the north of the Virgin Islands Whether the shoal of fish had attracted such a large concentration of birds I would not like to say, but it is within reason to assume that the land could have provided some shelter for such large numbers south of the islands.

SEA BIRDS AVOIDING OIL PATCHES

Lieutenant Commander Casement, R.N., reports that while observing flocks of the Aegean species of Manx Shearwaters in the Bosphorus a patch of oil on the water caused birds to rise a few feet as the flocks passed over it and then to swoop down again to within a few feet of the sea. Several flocks were seen to do this. It would be interesting to know by what sense they detected it.

BROWN-WINGED TERNS COME TO ROOST ONBOARD

In a recent report, (Ardea, Jrg 53, afl½, 1965), Captain W. F. J. Morzer Bruyns and Professor K. H. Voous draw attention to night feeding by Sooty Terns in the case of a bird recovered onboard at night in the Eastern Pacific Ocean and which regurgitated freshly swallowed deep sea fishes themselves no doubt brought to the surface on ascending currents in an area of converging currents.

We are able to confirm the many occasions on which the cries of Sooty or Brown-winged Terns have been heard calling around ships at night.

J. O. Brinkley now sends us this report from his ship, s.s. Bidford Priory at the southern end of the Red Sea during 18th and 19th May, 1965:

"At dusk on 18th May in position 13°30'N, 42°45'E, seven Brown-winged Terns came to roost on the poop deck guardrails. After several near misses I was able to capture one, complete an examination form and ring it with N.I.O. ring 2905(0). I boarded it for the night and released it next day in position 16°30'N, 40°45'E. No food was taken or vomitted."

Chief Engineer L. J. Macinnes also sends us this report from the Persian Gulf during April, 1965:—

"After darkness fell during the northward passage of the Persian Gulf en route to embark oil fuel a flock of what proved to be Brown-winged Terns kept flying at the ship out of the darkness. This was kept up for about two hours.

On our return run loaded we were much lower in the water. On 19th April Brown-winged Terns once again kept flying around the lighted area over the stern, and one daring bird landed on the after rail and squatted. This was the signal for the others to roost, and amid much excitement ten lined up all facing the same way. It seemed clear that standing was not their strong point as they sat tightly on alighting. Finally the last to join the squatters tried to land on top of the others and fetched up on a coiled rope. There I rescued him or her and made an

examination. The bird was a splendidly clean specimen except that the bill alone was covered in fuel oil which was cleaned off. It was noticeable that only the bill had been in the water, the feathers were quite free. On being released after about an hour my bird immediately joined his mates in the line and started to preen."

A MULTITUDE OF FRIGATE BIRDS

Chief Officer P. W. G. Chilman sends us this account of his observations from M.V. Amastra while the ship was lying alongside at Punta Cardon, Venezuela, on 23rd August, 1964:—

"Soon after daylight, at about 0600 hours, magnificent Frigate-birds appeared in very large numbers forming a narrow band extending from the coast to about a mile offshore. There must have been eight hundred to a thousand, certainly no less, hovering head to wind at heights between two hundred and a thousand feet. From time to time for no apparent reason part of the band would swirl in unison and again settle head to wind. Pairs of birds, not males and females in particular, but any two birds, would break from the concentration, playing or fighting and falling considerable distances meanwhile. Nearly all these birds however were females or young, not more than 20% being fully adult. An hour and a half later the concentration began to disperse further to seawards.

There are always plenty of Frigate-birds here but I have never seen anything like this before."

SOUTHERN GREAT SKUAS ONBOARD

Chief Officer J. A. F. Jenkins has certainly capped the record appearing on page 86 of Sea Swallows, 1964, by the following interesting notes. He writes:—

"It is a very common thing around the Australian Coast for Southern Great Skuas to alight onboard. We have had four or five of these birds sitting on various masts and sampson posts at the same time.

Another interesting thing about these birds is that they can be attracted from their free seats and brought down to the bridge level by letting a white handkerchief flutter in the breeze. Perhaps they imagine that it is a bird in distress because they will almost come right down within feet of you to have a closer look. It is a very easy way to impress people! I just say "would you like to have a closer look at that bird," and it is not very often that they let you down.

R.N.B.W.S. REPRESENTATIVES OVERSEAS

R.N.B.W.S. WILL ALWAYS WELCOME OFFERS FROM ORNITHOLOGISTS RESIDENT OVERSEAS, PARTICULARY IN THE VICINITY OF PORTS, WILLING TO ACT AS R.N.B.W.S. REPRESENTATIVES TO WHOM R.N.B.W.S. MEMBERS COULD REFER WHEN IN THE VICINITY.

AUSTRALIA

WESTERN AUSTRALIA.

Julian Ford, Esq., Flat 16, 124 Terrace Drive, PERTH.

VICTORIA (MELBOURNE).

Roy Wheeler, Esq., 59a Upton Road, WINDSOR. Phone 51,6331. *Bird Observers Club, R.A.O.U.*

VICTORIA (GEELONG).

Jack Wheeler, Esq., 19 Roslyn Road, Belmont, GEELONG. Phone Geelong 86728. *Geelong Field Naturalists Club. R.A.O.U.*

NEW SOUTH WALES.

K. A. Hindwood, Esq., 105 Middle Harbour Road, LINDFIELD. *R.A.O.U.*
J. D. Gibson, Esq., 12 Redman Avenue, THIRROUL. *R.A.O.U.*

DENMARK

Lektor Hans Hvass, M.Sc., Grondalsvej 53, COPENHAGEN.
Hon. Member R.N.B.W.S.

HOLLAND

Prof. Dr. K. H. Voous, Zoological Museum, Plantage Middenlaan 53, AMSTERDAM (C). *Hon. Member R.N.B.W.S.*

HONG KONG

F. O. P. Hechtel, Esq., Hon. Sec. Hong Kong Birdwatching Society, c/o Chartered Bank, P.O. Box 21, HONG KONG.

MALTA

Dr. C. de Lucca, B.Sc., M.D., 10 Church Street, Gharghur, MALTA, G.C.
Hon. Member R.N.B.W.S President Malta Ornithological Society.

NEW ZEALAND

Dr. R. A. Falla, C.M.G., M.A., Dr.Sc., Director Dominion Museum, WELLINGTON, C3. *Hon. Member, R.N.B.W.S.*

PERSIAN GULF

V. A. D. Sales, Esq., 54/12 Street North, Ahmadi. 1. KUWAIT.
Member R.N.B.W.S. Tel.: 7784 (Home).

SOUTH AFRICA

Dr. J. M. Winterbottom, Director, Percy FitzPatrick Institute of African Ornithology, University of Capetown, Rondersbosch, Cape Province.

U.S.A.

Lieut. Commander R. Stackpole, U.S.N.R., Normandy, Ocean Avenue, Newport R.I. *Member R.N.B.W.S.*

William B. Robertson Jnr., Park Biologist, Everglades National Park, P.O. Box 279, Homestead, Florida 33030. (Members visiting Port Everglades or Miami.)

California—Los Angeles.

Mr. Arnold Small, 3028 Cavendish Drive Los Angeles, 90064, U.S.A. *President of Los Angeles Audubon Society.*

WEST INDIES

Dr. C. B. Lewis, O.B.E., Director and Curator, The Science Museum, Institute of Jamaica, Kingston Jamaica. *Hon. Member R.N.B.W.S.*

IN ADDITION THE FOLLOWING NATURAL HISTORY MUSEUMS OVERSEAS WHICH RECEIVE COPIES OF 'SEA SWALLOW' ARE GIVEN BELOW (names of contacts in brackets).

Australia.	C.S.I.R.O. Division of Wildlife Research, Canberra, A.C.T. (W. B. Hitchcock).
Canada.	National Museum of Canada, Ottowa. Redpath Museum, Montreal.
France.	Museum of Natural History, Paris. (Monsieur Jouanin).
W. Germany.	Zoological Museum, Bonn. (Dr. Niethammer).
Holland.	Rijksmuseum of Natural History, Leiden. Zoological Museum, University of Amsterdam. (Prof. Dr. K. H. Voous, Dr. J. Wattel).
Honolulu.	Berenice P. Bishop Museum.
New Zealand.	University of Canterbury, Christchurch (Dr. Bernard Stonehouse).
U.S.A.	The American Museum of Natural History, New York (Librarian).
	Peabody Museum, New Haven, Connecticut (Dr. Ripley).
	Smithsonian Institution (Division of Birds), Washington 25, D.C. (Asst. Curator, George E. Watson).

NEW MEMBERS 1964–1965

Adams, J. H. Rear Admiral, M.V.O., R.N., H.M.S. Albion.

Armstrong, C. J. W. Apprentice M.N., M.V. Baron Inverforth, H. Hogarth and Sons. Ltd.

Armstrong, L. R.E.M. 1st Class, H.M.S. Falmouth,

Cowdery, A. J. B. Lieut. Commander, R.N.R.

Cummings D, R. Navigating Apprentice, M.N., M.V. British Holly, B.P. Tanker Co. Ltd.

Claridge, J. C. R. (former member, rejoined), Navy Office, Wellington, N.Z.

Davies, J. C. Able Seaman, R.F.A. Tide Spring.

Donaldson, J. A. Lieut. Commander, R.N., H.M.S. Tartar.

Furse, J. R., Lieut. Commander R.N.

Ireland, G. B. Chief Officer M.N., M.V., Hereford Beacon, Medomsley S.S. Co. Ltd.

Lowndes, R. J. Lieutenant R.N., H.M.S. Hecla.

Lynagh, N. Meteorologist, Ocean Weather Service.

MacDonald, E. D. Meteorologist, Ocean Weather Service.

Muirhead, W. M. R. Apprentice, M.N., S.T.S. Volsella, Shell Tankers U.K. Ltd.

Murray, G. A., Admy. Surface Weapons Est.

Palmer, A. J. Chief Officer M.N., M.V. Asphalion, Alfred Holt and Co. (Blue Funnel Line).

Pike, D.W. Lieutenant R.N.

Price, W. C. W. Second Officer, M.N., R.F.A. Wave Prince

Roberts, D. C. K., Cadet R.N., Britannia R.N. College, Dartmouth.

Stapleton, N. B. J. Captain R.D., R.N.R., R.F.A. Orangeleaf.

Tailyour, N. H., C.B., D.S.O., Major General, R.M., Commandant General, Royal Marines.

Trant, P. J. Radio Officer, M.N. M.V. British Trust, B.P. Tanker Co. Ltd.

Willmott, J. W. Chief Petty Officer, E.A.1(Air), H.M.S. Ark Royal.

Williams, R. T. Captain M.N., M.V. British Confidence, B.P. Tanker Co. Ltd.

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	Dr. Autgaerden	Paris
SWITZERLAND		
	Monsieur Raymond Lévêque	Geneva
POLAND		
	Prof. Dr. W. Rydzewski	Wroclaw
NETHERLANDS		
	Dr, J. Wattel	Amsterdam
NORWAY		
	E. Brun, Esq.	Tromsö
GREAT BRITAIN		
	Major C. Worrin	Harrogate
	Dr. D. A. Bannerman, O.B.E., Sc.D.	Dumfries

	D. J. Slinn, Esq.	Port Erin (I. of Man)
	Miss Clemence Acland	Banstead
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	I. McLean, Esq.	Holyhead
	E. I. S. Rees, Esq.	Penarth
	Roger Bailey, Esq.	Oxford
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	J. D. Gibson, Esq.	Thirroul, N.S.W.
	Roy Wheeler, Esq.	Windsor, Victoria
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	Julian Ford, Esq.	Perth, W. Australia
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	F. C. Kinsky, Esq.	Wellington
	Dr. Bernard Stonehouse	Christchurch
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	Dr. Lawrence Giovando	Nanaimo British Columbia
U.S.A.		
	Dr. Malcom Gilmartin	Honolulu, Hawaii
	Charles. E. Huntington, Esq.	Brunswick, Maine
	Mack L. Libby, Esq.	New Harbour, Maine
	Peter W. Post, Esq.	New York
SOUTH AMERICA		
	F. Haverschmidt, Esq. (Dutch Citizen)	Paramaribo, Surinam
SOUTH AFRICA		
	Dr. J. M. Winterbottom	Rondebosch, Cape Province

THE ROYAL NAVY BIRD WATCHING SOCIETY

Receipts and Payments Account for the Year ended 30th November, 1964

£ s. d. 1963	£ s. d.	RECEIPTS	£ s. d.	£ s. d.
148 5 8		Balance 1st December 1963: Cash at Bank		138 3 1
		Subscriptions—		
		Current Year—		
	29 14 0	Under Covenant	30 4 0	
	50 12 9	Other	51 10 0	
	1 9 0	Arrears	2 17 0	
	5 0 0	In Advance	5 14 6	
86 15 9				90 5 6
		Donations:		
	3 4 0	Under Covenant	3 4 0	
	11 4 6	Other	4 6 6	
14 8 6				7 10 6
20 3 11		Income Tax recovered on 59 members' covenanted subscriptions and donations up to 5th April 1963 (See Note 1)		19 11 3
4 12 6		Sale of Members Ties (5)		4 10 0
		Other Receipts:		
	26 17 0	Sales of *Sea Swallows*	63 13 6	
	24 0 0	Advertisements in *Sea Swallows*	15 0 0	
50 17 0				78 13 6
41 0 7		Sales of 1963 Christmas Cards		55 4 9
2 10 0		Sales of 1964 Christmas Cards (See Note 2)		— — —
£368 13 11				£393 18 7

NOTES:

1. Refund of Income Tax amounting to £20 3. 11. on 59 members covenanted subscriptions and donations for the financial year ended 5th April 1964 is at present receiving attention from the Commissioners of Inland Revenue.
2. The receipts for the sale of 1964 Christmas cards are not yet available for the inclusion in this year's account.

£ s. d.	£ s. d.	1963 Payments	£ s. d.	£ s. d.
19 12 7		Postage and Stationery		26 11 9
		Printing:		
	137 13 11	*Sea Swallows* 1963 (500)	204 10 0	
	4 10 0	Sea Bird Census Forms (500)	— — —	
	4 10 0	Bird in Hand Report Sheets (1,000)	2 10 0	
	10 6	100 R.N.B.W.S. "With Compliments" Slips	— — —	
	1 9 0	Minutes of 1963 Annual General Meeting	1 4 0	
	8 10 0	Bulletins 56–58	8 15 0	
	6 0	Special letters to advertise *Sea Swallows* to Museums, etc.	— — —	
	16 6	R.N.B.W.S. Prospectus Leaflets	4 4 0	
	— — —	Letterhead Sheets	2 9 0	
158 5 11				223 12 0
7 0 0		Expenses of Annual General Meeting 1963		8 0 6
		Subscriptions:		
	2 0 0	British Trust for Ornithology	2 0 0	
	— — —	Ring Series '13'	10 0	
	1 10 0	Council for Nature	2 0 0	
3 10 0				4 10 0
40 0 4		Printing 1964 Christmas Cards (2,000) (including postage advance to Mr. Rayfield)		57 8 5
— — —		Hydrographer (4 Charts for Ocean Plot)		1 0 3
2 2 0		Bank Charges and Cheque Book		2 7 0
138 3 1		Balance 30th November 1964: Cash at Bank		70 8 8
£368 13 11				£393 18 7

I have examined the above Account with the books and records of the Society and certify that it is correct and in accordance therewith.

St. Mary Axe House,
56/60, St. Mary Axe,
London, E.C.3.
1st December, 1964.

R. G. Pegler,
Chartered Accountant,
Hon. Auditor.